

**TITLE 326 AIR POLLUTION CONTROL BOARD**

**DEVELOPMENT OF NEW RULES AND AMENDMENTS TO RULES CONCERNING  
NITROGEN OXIDES EMISSIONS REDUCTION  
#98-235(APCB)**

**SUMMARY/RESPONSE TO COMMENTS FROM THE SECOND COMMENT PERIOD,  
MAY 1, 1999, THROUGH JUNE 1, 1999**

The Indiana Department of Environmental Management (IDEM) requested public comment from May 1, 1999, through June 1, 1999, on IDEM's draft rule language. IDEM received comments from the following parties:

Aluminum Company of America	(ALCOA)
American Electric Power	(AEP)
ANR Pipeline Company	(ANR)
CMS Energy	(CMS)
Dravo Lime Company	(DLC)
General Electric Company	(GEC)
General Motors Corporation	(GMC)
Indiana Chamber of Commerce	(ICC)
Indiana Department of Transportation	(INDOT)
Indiana Electric Utility Air Work Group	(IEU)
Indiana-Kentucky Electric Corporation	(IKEC)
Indiana Manufacturers Association	(IMA)
Indiana Metropolitan Planning Organization Council	(IMPOC)
Indianapolis Power and Light Company	(IPL)
Knauf Fiber Glass	(KFG)
Midwestern Gas Transmission Company	(MGT)
National Steel Corporation	(NSC)
Northern Indiana Public Service Company	(NIPSCO)
Nucor Steel	(NS)
Peru Utilities	(PU)
Seagram Americas	(SA)
Southern Indiana Gas and Electric Company	(SIGECO)
State Line Energy	(SLE)
Steel Dynamics Incorporated	(SDI)
Texas Gas Transmission Corporation	(TGT)
United States Environmental Protection Agency	(USEPA)

Following is a summary of the comments received and IDEM's responses thereto.

*Comment:* IDEM should provide some type of severability language to provide a mechanism to deal with the ramifications if the court invalidates the final federal rule. Since one of the goals of this rulemaking is to respond to the final federal rule, the rule must include language that invalidates those parts of the final federal rule should the final federal rule be overturned or vacated in court. The rule language should be clear on this point and should state that the rule requirements are to meet federal requirements, that the rules are effective upon full approval by the U.S. EPA, that the rules are only in effect for as long as the federal requirements are in effect and IDEM still has the ability to establish site-specific emission limitation to protect the National Ambient Air Quality Standards (NAAQS). If the court declares the federal rule to be invalid, IDEM should withdraw this rulemaking. (IMA) (ICC) (AEP) (IKEC) (IPL) (MGT) (IEU) (ALCOA)

*Comment:* IDEM has proposed major changes to current emission levels for nitrogen oxides (NO<sub>x</sub>) that will have a substantial impact on transportation throughout the state. An additional fifteen percent (15%) reduction of NO<sub>x</sub> from mobile sources will have serious impacts on current and future transportation plans. It is not clear how the NO<sub>x</sub> budget for mobile sources will be allocated among highway, inspection and maintenance, and low sulfur fuel. The proposed NO<sub>x</sub> budget reductions could significantly affect existing air quality conformity in the urban areas and also impact rural areas that are not currently under air quality restrictions. (INDOT)

*Comment:* IDEM should provide additional time for entities to evaluate and comment on the draft rules. Recent court decisions could have an impact on the NO<sub>x</sub> rulemaking. The extra time is needed to evaluate the effect of the court decisions on the final federal rule and its consequences on IDEM's proposed rulemaking. (NIPSCO) (IPL) (AEP) (IKEC) (KFG) (SIGECO) (SLE)

*Comment:* There are several court actions that must be considered with this rulemaking. The recent ruling concerning the new ozone standard and the stay of the submittal date to respond to the federal NO<sub>x</sub> rule have or could have an impact on the final state rule. In addition, the May 25, 1999 ruling that granted a stay for the submittal date to respond to the federal rule. IDEM should extend the comment period. Interested parties have not had the opportunity to fully evaluate the implications of the court's decisions and the subsequent necessity of associated state rulemaking. These factors warrant providing an opportunity to submit supplemental comments following the close of the comment period and IDEM's consideration of future supplemental comments. (IEU)

*Comment:* IDEM should provide additional time for responding to the NO<sub>x</sub> rulemaking comment period. The additional time is needed for the draft rules to be reviewed by each metropolitan planning organization area, their elected officials, and policy boards. Additional time will allow our communities and elected official to review and become knowledgeable regarding the impacts of the draft rule as it relates to mobile source emissions. (IMPOC)

*Comment:* The overall goal of the NO<sub>x</sub> rulemaking should be to establish a budget necessary to satisfy the final federal rule taking into account the cost-effectiveness of different control options and tailoring the required reductions in a manner consistent with Indiana's air quality

goals. The scope of the rulemaking should be limited to meeting the minimum requirements of the final federal rule and adoption of the system of NO<sub>x</sub> reductions developed by the U.S. EPA. Although IDEM should tailor the rulemaking to the extent practicable to meet Indiana needs, it would be imprudent to attempt to address further local NO<sub>x</sub> emission reduction goals in a limited time frame. (NS) (NSC) (ALCOA)

*Comment:* New source review (NSR) applicability should be eliminated for modifications to existing sources participating in the NO<sub>x</sub> trading program. Indiana's NO<sub>x</sub> emissions levels are subject to an overall cap in the trading program that will provide guaranteed environmental safeguards. Because the cap would apply to all significant NO<sub>x</sub> sources in Indiana and not just individual sources as they undergo modifications, the program will provide more significant environmental benefits than could be obtained through NSR. Exempting these modified sources from NSR requirements will reduce administrative burdens on IDEM and the regulated community and will provide enhanced compliance flexibility, enabling sources to adapt more quickly. If there are any doubts concerning the legal authority to eliminate the NSR requirements for sources in the NO<sub>x</sub> trading program, IDEM should consult with the U.S. EPA to resolve the doubts. (SIGECO)

*Comment:* IDEM should re-publish a second notice of comment period with the full text of the draft rule. Indiana statutes requires that a second notice of comment period contain the full text of the proposed rule. The fill-in-the-blank approach undermines the ability of interested parties to comment in any meaningful manner and comes perilously close to foreclosing any meaningful participation in the rulemaking process itself. (GEC)

*Comment:* Because the draft rule is vague concerning specific emission reductions that will ultimately be required, IDEM should publish a third notice of comment period prior to rule adoption. As currently written, it is impossible for interested parties to ascertain what level of emission reductions IDEM believes is most appropriate. The cost differential between different control levels is quite significant and an additional notice and comment period is necessary to ensure that interested parties have an adequate opportunity to respond as to the appropriateness of the emissions reductions and associated provisions included in Indiana's rule. (IEU)

*Comment:* IDEM has based its rulemaking on an inaccurate assumption. The draft rule appears to be based on a statewide budget of two hundred two thousand five hundred eighty-four (202,584) tons per ozone season. The U.S. EPA amended the final federal rule on May 14, 1999 and raised the Indiana budget to two hundred thirty-eight thousand nine hundred seventy (238,970) tons per ozone season. Consequently, the draft rule imposes more controls than are necessary and IDEM should insure that any final rule is consistent with the amended budget. IDEM should make all necessary changes to the draft rules to reflect the technical amendments to the federal rule. In addition, IDEM should clarify an inconsistency, the total budget identified in the second notice is one hundred ninety thousand nine hundred sixty-six tons (190,966), but the budget from the original federal rule was two hundred two thousand five hundred eighty-four (202,584) tons per ozone season. (GEC) (IEU) (IPL)

*Comment:* The draft rule includes possible controls on sources that were not included in the

final federal rule and is a substantial departure from the approach taken by the U.S. EPA. U.S. EPA crafted its approach to control only larger sources and utility boilers and large industrial boilers are the most cost-effective sources to control in order to achieve the reductions mandated by the final federal rule. IDEM should follow the proposed U.S. EPA recommendation to focus on utility boilers and large industrial emission units with heat inputs greater than two hundred fifty million British thermal units per hour (250,000,000 MMBtu/hr). (GEC) (NSC)

*Comment:* IDEM should retain the language under 326 IAC 10-2-3(i) concerning the establishment of a more stringent site-specific limit if needed to protect the National Ambient Air Quality Standards (NAAQS). The separation of the NAAQS from the rest of the rule is important in light of recent court decisions concerning the new ozone standard. It would be helpful for IDEM to identify, in rule or response to comments, the procedure to be used to implement the site-specific limitations. This is probably better suited for a separate rulemaking. (IPL)

*Comment:* IDEM should adopt the following two (2) basic implementation principles in the development of these rules:

- The new rules must comply with U.S. EPA's requirements in the final federal rule, but should be no more stringent than necessary for this purpose.
- The new rule must not interfere with IDEM's ability to develop site-specific controls as necessary to meet the eight (8) hour ozone NAAQS.

The first principle reflects IDEM's legal duty to respond to the final federal rule and the reality that the proposed federal implementation plan will not serve the interests of Indiana. IDEM should use the opportunities that are available to incorporate flexibility within the U.S. EPA framework without making the new rules any more stringent than the U.S. EPA requires. This is consistent with Indiana's previous position that the final federal rule is overly restrictive. The second principle reflects the fact that additional emission controls may be necessary in nonattainment areas of any enforceable eight (8) hour ozone NAAQS that the U.S. EPA may develop. (IPL)

*Comment:* The objective of the present rule should be to provide for implementation of highly cost effective NO<sub>x</sub> controls in Indiana, while avoiding any requirements that would increase the stringency of the federal rule or otherwise go beyond Indiana's obligations to control regional ozone transport under the CAA. IDEM must clearly articulate and demonstrate how it weighed:

- nonattainment or air quality data;
- the evidence available to demonstrate whether or not Indiana sources significantly contribute to downwind nonattainment with the one (1) hour ozone standard;
- legal authority;
- economic or cost-benefit impacts;
- equity considerations; or
- other criteria or methodologies, or both, to make emission control decisions.

This approach will afford all impacted parties a meaningful way to understand Indiana's decision in light of these issues. We encourage IDEM to continue to foster, through local decision

making, a cooperative approach to cleaner air that addresses the economic needs of Indiana and takes into account the most current air quality and economic information. (IEU)

*Comment:* On May 25, 1999, the United States Circuit Court of Appeals for the D.C. Circuit issued an order staying the federal deadline for submittal of state implementation plan (SIP) revisions. Thus, because the timetable associated with the federal rule is unknown and the merits are yet to be determined, IDEM should proceed cautiously or postpone this rulemaking until the legality of the federal rule is finally determined. IDEM should know what the federal requirements really are before state rules are adopted. (NSC) (ALCOA)

*Comment:* IDEM should consider the impact of the recent court decision that rendered the eight (8) hour ozone NAAQS unenforceable on IDEM's draft rules. In light of this discussion, IDEM should reconsider its objectives, and should closely monitor developments relating to this issue, so that Indiana's regulatory scheme can be adjusted accordingly. Even if the ruling is overturned, IDEM should address the eight (8) hour ozone NAAQS in a separate rulemaking where better modeling to determine appropriate controls. (NSC) (CMS) (IEU)

*Comment:* The U.S. EPA published the revised final emissions inventories for Indiana and other states on May 6, 1999. This inventory contains substantial errors that relate to operators of stationary internal combustion engines and the U.S. EPA has been informed of the errors. The major errors include separate emission units linked to one (1) stack and units are missing or units have been added to the inventory that do not exist at the site. (MGT)

*Comment:* If the court extends the date by which states must comply with the federal rule, then the compliance date for the affected sources should be likewise extended. (MGT)

*Comment:* Electric system reliability is of great concern and Indiana utilities spend considerable resources each year maintaining their generating units and their transmission and distribution system so that they can reliably deliver electricity to their customers. Electric system reliability is directly impacted by the specific manner in which IDEM structures the final state rule. The level of stringency and the timing of the implementation of the controls are the two (2) factors that will have the greatest impact on the ability of utilities to provide enough power to meet the needs of the customers. To help prevent disruption to the electric supply, IDEM should structure its rule to allow a less stringent emission level or a longer construction schedule to meet the compliance deadline, or both, to allow utilities sufficient time to install the control devices necessary to meet the specified emissions reductions. One (1) option would include adoption of less restrictive early reduction credit and direct compliance extension provisions. (IEU) (IPL)

*Comment:* Over the past eighteen (18) months, several groups including IDEM have been following the Ozone Transport Assessment Group's (OTAG) primary recommendation that states should conduct additional subregional ozone modeling to better define ozone transport and transport patterns and to evaluate a range of emission reductions to address those cases where ozone transport makes a meaningful contribution to ozone nonattainment in the eastern United States. There is some concern about the process being used that should be addressed as part of this rulemaking. No recent rulemaking has relied so heavily on computer modeling to estimate state and source contribution to ozone transport. IDEM must provide the regulated community

and the public with ample opportunity, as required by the Indiana Code, to have access to all materials that form the basis of the final rule and provide meaningful comments on that material. To date, IDEM has provided only limited opportunity to review any data that may form the technical basis for the final rule. There is concern that this information may have serious flaws that may not be known until it is too late to correct them. Much of the modeling work is being completed using modeling tools that lack full scientific peer review and are proprietary and are not available for inspection as required under Indiana statutes. IDEM should provide full access to all applicable data, models, and results along with an opportunity to provide meaningful comments on the results. In addition, all computer software tools used in this rulemaking should follow the U.S. EPA's guidance for proper scientific peer review and acceptance and that such tools be made available for inspection as required by statute. (IEU) (IPL)

*Comment:* IDEM must review the information being used to estimate the cost impact of the rulemaking. Using incorrect assumptions such as utilities borrowing one hundred percent (100%) of the capital needed to comply with the rule and outdated cost estimates from 1990 will have a significant impact on the estimated costs. The emission limit chosen by IDEM will also have a significant impact. A control cost study estimates that complying with the federal rule would require an initial capital investment over one billion three hundred million dollars (\$1,300,000,000) and annualized compliance costs of two hundred thirty-eight million (\$238,000,000). In contrast, complying with a twenty-five hundredths (0.25) lb/MMBtu limit would reduce these costs to four hundred eighty million dollars (\$480,000,000) and ninety-five million dollars.

The availability of system-wide emissions averaging, the actual reductions that are achieved with a specific control technology, and the use of Indiana coal will also impact the costs of control. The use of high sulfur Indiana coal and selective catalytic reduction control technology will almost certainly result in catalyst binding and increased operation and maintenance costs. (IEU) (IPL)

*Comment:* In response to the final federal rule, IDEM must establish an emission budget that:

- is consistent with U.S. EPA's total NO<sub>x</sub> emission budget indicated in the May 14, 1999 Technical Amendment to the federal rule, or as ultimately agreed to between IDEM and U.S. EPA;
- will address the NO<sub>x</sub> emission contribution to non-attainment of the one (1) hour and eight (8) hour ozone standards in Indiana on a priority basis. Greater reductions should be required for sources in nonattainment areas than in Indiana's attainment areas;
- will address Indiana's NO<sub>x</sub> contribution to other state's ozone nonattainment;
- will be fair and equitable to all of Indiana's NO<sub>x</sub> sources. IDEM must justify any transfer of NO<sub>x</sub> reduction budget between source categories on a cost-effectiveness basis. However, a higher cost-effectiveness value could be considered for non-attainment areas than attainment areas to achieve NO<sub>x</sub> reduction goals. (SA)

*Comment:* Ozone is formed through chemical reactions with NO<sub>x</sub> and volatile organic compounds (VOCs) and it is essential to all citizens of Indiana to implement a fair and effective

plan for reducing ozone levels. The draft rule singles out NO<sub>x</sub> emission reductions without adequate emphasis on controlling VOC emissions as well and this ignores the fact that VOC emissions are strong precursors to ozone formation. The creation of this rule exceeds the agency's knowledge of ozone formation in Indiana, and IDEM has failed to which precursors are instrumental in forming ozone and to what degree they need to be curtailed to achieve the ozone standard. The draft rules may result in an increase in ozone levels due to IDEM's failure to control the true ozone precursors, while unfairly taxing industrial sources. IDEM should provide information on the level of ozone reductions from various VOC and NO<sub>x</sub> emission sources to justify the proper regulation for ozone reduction. (SDI)

*Comment:* The draft rules, as written, would pose significant burdens concerning sources that include large and small boilers, have boilers that operate infrequently, and are located in an urban area. Because the draft rules do not include a de minimis threshold for applicability and the emissions averaging provisions are too restrictive, controls would have to be installed on all units, no matter the cost or other considerations. Concerning units that operate infrequently, the draft rules do include an option to accept federally enforceable limits on operation to be exempted from the control requirements, but this could put a source in a difficult position, if the units are needed to make up for the failure of other units. The trading program does not alleviate any of the burden for the smaller, infrequently operated units, because they are not included the core group of sources and do not meet the requirements necessary under to opt-in to the trading program. In addition, the stringent level of reduction could require the use of a control technology that requires the use of large amounts of ammonia. The storage and delivery of ammonia at sources located in densely populated urban areas presents additional risks.

IDEM should revise the draft rules to allow sources to reduce NO<sub>x</sub> emissions in the most economical manner. The following revisions would assist in accomplishing this:

- Include a de minimis threshold for applicability.
- Provide more flexible system-wide averaging provisions.
- Revise the opt-in criteria under 326 IAC 10-3-13 to make the provisions less stringent.
- Provide a site-specific limit to allow a source to comply with a site-specific percent reduction from the cumulative 1995 baseline emissions from the plant and that accounts for reductions already achieved. (IPL)

*Comment:* The draft rules include cross-references and refers to draft rule sections, state rules, and federal regulations. These references should be reviewed for accuracy and revised accordingly. (GEC) (IPL)

*Comment:* IDEM should be consistent and clear with the terminology used in the draft rules. The draft rules include a definition for control period, but also refers to ozone season. The term ozone season should be replaced with the defined term, control period. (IPL)

*Comment:* IDEM should be consistent with the final federal rule and not require controls on electric generating units having an output less than twenty-five (25) megawatts. While 326 IAC 10-2-2 includes a definition for electricity generating units that uses the twenty-five (25) megawatt as a cutoff, it does not appear that this definition provides a clear exemption. It

appears that the definition of large affected boilers would include boilers that serve generators less than twenty-five (25) megawatts and the rule would require emissions reductions from these boilers. Due to the small amount of nitrogen oxides emissions from these units, including these units as affected units would require large capital expenditures for controls, but would not result in significant reductions. An exemption is appropriate for these types of units due to the peaking services they perform and their normally restricted annual hours of operation and emissions. IDEM should consider including rule language that specifically exempts a unit based solely on the nameplate electric generating capacity, irrespective of the boiler size. The exemption could be included by providing a definition that clearly identifies units less than twenty-five (25) megawatts as being "non-affected units". (PU)

*Comment:* IDEM should consider emissions from mobile sources as part of this rulemaking. The IDEM 1999 State of the Environment Report states that twenty-two percent (22%) of all NO<sub>x</sub> emissions are generated by mobile sources, whereas industrial sources represent only fourteen percent (14%). In addition, mobile sources are the second largest NO<sub>x</sub> source in Indiana. Enhanced vehicle inspection and maintenance programs can capitalize on the potential reductions available from this sector. The NO<sub>x</sub> reductions realized can be used toward the overall budget in the federal rule and to reduce Indiana's contribution to any ozone transport and the VOC reductions will serve to offset the local reductions in NO<sub>x</sub> and thus inhibit possible NO<sub>x</sub> disbenefits. (ALCOA) (IPL)

*Comment:* IDEM should not develop a rule that is more stringent than the final federal rule. IDEM should consider individual facility impacts and what is economically beneficial for the state as a whole when analyzing a particular source category for regulation. It is agreed that IDEM should consider all options for reaching emissions reduction targets, including vehicle inspection and maintenance programs. (IMA) (ICC)

*Comment:* Requiring NO<sub>x</sub> reductions from smaller sources will place the sources in Indiana at a competitive disadvantage with similar sources located in other states. States are generally either implementing the federal rule or are developing alternative rules that are not as onerous as U.S. EPA's. Subjecting smaller sources to NO<sub>x</sub> reduction requirements, particularly without knowing the economic burden of complying with such requirements, imposes a competitive disadvantage on Indiana businesses. (NSC)

*Comment:* The applicability for large stationary internal combustion engines (large engines) in the draft rule is based on the horsepower rating of the engine. This approach is inconsistent with the method the U.S. EPA used in developing state emissions budgets. The U.S. EPA based its reduction targets on whether or not an engine had average emissions greater than one (1) ton per day during the ozone season in 1995. An engine that had emissions greater than or equal the one (1) ton per day threshold were considered to be large engines and controls were assumed. The approach IDEM has taken would result in the regulation of many more engines than is necessary and IDEM should revise the rule to establish the one (1) ton per 1995 ozone season day as the criteria to be used to decide those engines that will be required to control NO<sub>x</sub> emissions. Basing the applicability on the same criteria used by U.S. EPA in developing the NO<sub>x</sub> budgets offers the



greatest assurance that the U.S. EPA's expectations will be met during future control periods.  
(ANR) (CMS) (MGT) (TGT)

*Comment:* In the draft rule language, IDEM proposed control requirements for smaller stationary internal combustion engines (small engines). The type and size of engines included in the draft rule were excluded from consideration by the U.S. EPA in the final federal rule. IDEM should not require emissions reductions from small engines for the following reasons:

- Emission reduction costs - The U.S. EPA determined that emissions reductions from small engines that emit less than one (1) ton per day of NO<sub>x</sub> were not cost-effective.
- Little environmental benefit - Emissions from small engines will be much less significant than those from large engines. The quantity of NO<sub>x</sub> reduction achieved will be small, while the number of affected units will be significant.
- Administrative costs - Administrative costs will be high for IDEM and affected companies when considering emissions reductions per unit.
- Operational considerations - Many of the compressor stations and engines were built prior to World War II and some of the engines may no longer be produced. Because these types of engines have not been produced in many years, manufacturers have not designed control technologies for these engines. Without available controls, any requirements to control emissions from these engines could potentially necessitate shutting down these engines and that could impact natural gas delivery.
- Regional inconsistency - Pipeline compressor stations are located throughout the midwest. Generally, these compressor stations operate on pipelines that cross state boundaries. It is not appropriate to require controls at one (1) compressor station on a pipeline where other compressor stations on the same pipeline with comparable engines are not controlled. (ANR) (NS) (CMS) (MGT) (TGT)

*Comment:* If IDEM does not defer to the federal rule and decides to regulate small engines, a de minimis threshold should be chosen and the threshold of one thousand three hundred (1,300) brake horsepower is supported. The exemption for emergency standby generators is also supported. (NS)

*Comment:* IDEM should not extend the NO<sub>x</sub> rulemaking to require reductions from source categories not contemplated by the U.S. EPA unless IDEM has adequate information such as the availability of cost-effective control measures or data on air quality benefits. Even with IDEM's active pursuit of public involvement in the rulemaking process, substantial uncertainties remain that cannot be appropriately addressed in the limited rulemaking time frame. IDEM should proceed with caution and restraint in selecting the options necessary to satisfy the federal mandate. Due to the problems associated with trying to revise a rule in the future to address a technically infeasible emission limit, IDEM should not depart from its obligation to develop fair and effective rules in order to meet time constraints or to satisfy a desire to address all NO<sub>x</sub> concerns in one rulemaking. (NS)

*Comment:* IDEM has included control requirements for boilers less than or equal to two hundred fifty million British thermal units per hour (250,000,000 MMBtu/hr). IDEM should

defer to the federal rule concerning these units and should not require emissions reductions from these units. If a decision is made to obtain emissions reductions from these units, then a de minimis threshold of fifty million (50,000,000) MMBtu/hr should be established. This threshold would strike a balance between regulatory burden and the emissions reduction benefit to be achieved. The control requirements for this group should be no greater than thirty percent (30%) or a technology requirement such as low NO<sub>x</sub> burners. This would allow sources to achieve compliance through existing controls or the installation of a reasonable retrofit and would avoid undue burdens, costly retrofit technology requirements, or replacement requirements associated with a higher control level. (NS)

*Comment:* IDEM has included possible control requirements for sources with NO<sub>x</sub> emissions greater than one hundred (100) tons per ozone season. It may be appropriate to require reductions from some of these significant sources of NO<sub>x</sub> emissions, but IDEM should be more specific in identifying those sources that are to reduce emissions. A generic category reduction could unjustifiably impose emission reductions on sources for which there are no cost-effective control measures available. IDEM should either defer to the federal rule and not require controls or specifically identify those sources or source categories where controls are justified. (NS)

*Comment:* IDEM should clearly exempt from the rule sources that emit NO<sub>x</sub> or are willing to take enforceable limits that restrict NO<sub>x</sub> emissions below one (1) ton per day. The rule should also include an exemption for sources such as auxiliary boilers used for starting up other processes or that are operated at low capacity factors, for example, ten percent (10%). The U.S. EPA has recognized the lack of cost-effective controls for these sources in several federal regulations. Such low emitting and low capacity sources would not have cost-effective controls and would not create ozone problems. (AEP) (IKEC) (IEU) (IPL)

*Comment:* The applicability should be limited to the sources recommended in the final federal rule. If additional sources are included, the following revisions should be made:

- Revise the language in 326 IAC 10-2-1(a)(8) to refer to “NO<sub>x</sub> combustion units”. The final federal rule was based on controlling combustion NO<sub>x</sub> generated by combustion processes and not NO<sub>x</sub> generated by a chemical process. The rule should also include an applicability threshold based on the potential to emit of the unit.
- Revise the language in 326 IAC 10-2-1(b)(1) to include a group of units. In some cases, permits are issued for a group of units and not a single unit.
- The rule should be revised to also exempt maintenance operations.
- The exemption for emergency generators should be revised to include fuel usage records as a means of documenting compliance.
- An exemption should be included for units that have potential emissions less than or equal to twenty-five (25) tons per ozone season. This would exempt units smaller than those that take a federally enforceable restriction.
- IDEM should include an exemption for boilers less than or equal to two hundred fifty million (250,000,000) Btu/hr and classified as a boiler and industrial furnace regulated under the Resource Conservation and Recovery Act (RCRA). In addition to these units not being cost-

effective to control, the change in the emissions limit would require additional expense associated with a new RCRA permit.

- A new exemption should be provided for units that have actual ozone season emissions less than or equal to twenty-five (25) tons. The exemption would still require monitoring, record keeping, and reporting, but would exempt these units from control requirements. (GEC)

*Comment:* Under 326 IAC 10-2-1(b)(3), IDEM has excluded certain periods of time from control requirements and one of those is during malfunctions. However, IDEM has established a limit on this period of time, thirty-six (36) hours, that is inconsistent with current state and federal rules. IDEM should revise the rule language to delete the reference to a specific amount of time and should include periods of emergencies with malfunctions. In addition, IDEM should use the current definitions for malfunctions and emergencies. (IPL)

*Comment:* The rule language addressing sources with emissions greater than one hundred (100) tons per ozone season should be revised to clarify that it is targeting uncontrolled sources whose actual emissions exceed one hundred (100) tons. Sources that have already implemented control measures may not be in a position to further reduce emissions, based on economic as well as technological infeasibility. (NSC)

*Comment:* The exemption level of twenty-five (25) tons per ozone season should be retained, but the language should be revised for further clarification. This could be accomplished by including heat input limits for the listed categories and the heat input limits could be derived using AP-42 emission factors. This would reduce the situations where a source would have to supply, and IDEM review, information on hundreds of units to make an applicability determination. (ALCOA)

*Comment:* It appears that the one hundred (100) tons per ozone season source category would include lime kilns, although the U.S. EPA determined that these kilns would not be controlled under the federal rule. The vast majority of existing technologies available to control NO<sub>x</sub> emissions from lime kilns are unproven and costly, and therefore technically unfeasible. The impact of imposing a requirement to retrofit control technologies on the lime kilns will:

- Force the single Indiana commercial lime manufacturer into a research program on NO<sub>x</sub> controls.
- Inequitably impose a cost disadvantage on the production of Indiana lime.
- Insignificantly reduce the seasonal NO<sub>x</sub> emissions in Indiana.

IDEM should not include lime kilns under this rulemaking. (DLC)

*Comment:* The language under 326 IAC 10-2-1(a)(8) concerning large NO<sub>x</sub> sources should be revised to include a unit de minimis threshold. A possible threshold would be units with potential annual emissions in excess of ten (10) tons of NO<sub>x</sub>. Although the draft rule includes an exemption for units restricting emissions, the restriction would require some type of permitting action. Since some units may be too small to be permitted, a de minimis exemption is needed. (GMC)

*Comment:* The draft rules will severely impact sources that already meet best available control technology (BACT) emission control standards. Added controls on a source that currently meets

BACT are significantly more expensive than uncontrolled sources. IDEM should seek control measures from high emission sources of both VOC and NO<sub>x</sub> and from those sources that do not currently implement BACT or lowest achievable emissions rate (LAER) controls. This will level the playing field while focusing on sources that contribute the most to the regional ozone problem. (SDI)

*Comment:* In the draft rule, IDEM proposes NO<sub>x</sub> emission controls from a wide variety of sources. Since ozone is not a significant problem in Indiana, the inclusion of small NO<sub>x</sub> sources without the concurrent control of VOC sources is unjustified. The rules should not include any point source that does not emit a definitive NO<sub>x</sub> threshold of one hundred (100) tons per year. (SDI)

*Comment:* The draft rules expand the scope of affected source categories beyond those identified by the U.S. EPA. This is well within the authority of the agency, but IDEM should identify those source categories and associated reductions that are intended to satisfy local ozone nonattainment issues and those intended to comply with the provisions of the final federal rule. This information is necessary given the current litigation concerning the federal rule and the issues raised concerning the merits of the rulemaking and the actions of the U.S. EPA. (IPL)

*Comment:* The following changes should be made to the definitions section:

- The definitions for large and small affected boilers should be clarified by adding language that states that boilers exempted under 326 IAC 10-2-1(b) are not included. In addition, the definition for small affected boilers should include a threshold of greater than one hundred (100) million British thermal units per hour.
- The definition for large NO<sub>x</sub> source should be revised to only apply the one hundred (100) ton threshold to emission units not identified under 326 IAC 10-2-1(a)(1) through 326 IAC 10-2-1(a)(7).
- The rule should use the definition for startup and shutdown provided in 326 IAC 1-2-76 and 326 IAC 1-2-71 or simply refer to this definition.
- The definition of unit should be revised to NO<sub>x</sub> emission unit and the definition should be separately created to define what units are covered.
- In the definition of nitrogen oxides, the term nitrogen oxide should be changed to nitric oxide.
- The definition for low-NO<sub>x</sub> burner should be revised to include the concept of direct and indirect firing systems. (IMA) (ICC) (IPL) (GMC) (SA) (USEPA)

*Comment:* The definition at 326 IAC 10-2-2(28) should be revised to clarify that “permitted capacity factor” means the “annual permitted fuel use divided by the manufacturer’s specified annual maximum fuel consumption”. (GEC)

*Comment:* The definition at 326 IAC 10-2-2(40) should be revised to state that a unit means a combustion unit and does not include an air pollution control device. This supports the focus on NO<sub>x</sub> emissions from combustion processes and not chemical processes. (GEC)

*Comment:* The definitions for startup and shutdown refers to “cold or ambient temperature”. This language should be deleted because some outages can and do occur when the boiler is not cooled to ambient temperature. Since the rulemaking focuses on emissions from combustion, the

definition should refer to fuel input status as a means of determining startup or shutdown.  
(ALCOA)

*Comment:* The definition of electric generating unit includes language concerning the sale of any amount of electricity. This language could unintentionally capture some industrial boilers because of the details of corporate structure. The definition should be revised to clarify that the term “sells” does not include the sale of electricity where the sale is to a corporation that entirely owns the selling corporation, is entirely owned by it, or where both corporations are owned by a third corporation, provided that there is no resale by the corporation purchasing the electricity.

(ALCOA)

*Comment:* It is not clear whether or not the definition for fossil fuel includes petroleum coke. Petroleum coke is a high Btu combustible added to coal to provide a cost effective fuel for the production of heat. Lime kilns commonly use some percentage of petroleum coke blended with coal and IDEM should clarify whether or not petroleum coke is considered a fossil fuel. (DLC)

*Comment:* There is some confusion concerning the definition of large NO<sub>x</sub> source when comparing the definition with others in the section. Other definitions refer to a unit and this seems to be in conflict with this definition that refers to a source. IDEM should clarify whether the one hundred (100) tons is applied to the collection of units at a source or to each unit at a source. A suggestion would be to revise the section to clearly state that the emission reductions apply to the entire source and can be achieved by controlling any unit or group of units. (DLC)  
(TGT)

*Comment:* The definition of “large NO<sub>x</sub> source” does not specify the base year for determining applicability. As written, the draft rule would require sources to estimate emissions after each control period and if the source had emitted over one hundred (100) tons, then the source would be subject to emission controls. The determination of large NO<sub>x</sub> sources should be based on the actual emissions from a previous control period, and 1995 control period should be used, since the U.S. EPA used 1995 as the base year for the inventories used in developing the federal rule. (TGT)

*Comment:* IDEM should continue to foster a cooperative approach to cleaner air that addresses the economic needs of Indiana and takes into account the most current air quality and economic information. As an alternative to the federal rule, IDEM should adopt a phased emission reduction strategy that provides for cost-effective and timely NO<sub>x</sub> controls. The following key elements would be included in this strategy:

- The establishment of an ozone season NO<sub>x</sub> budget for electrical generating units greater than two hundred fifty million (250,000,000) MMBtu/hour heat input based on a twenty-five hundredths (0.25) lb/MMBtu control level by 2003.
- Additional utility reductions, if needed in the future, would be determined and implemented as needed for any revised ozone standard.
- Implementation of a broad-based NO<sub>x</sub> cap and trade program. (IEU) (IPL)

*Comment:* Specific emission limits should be written into the rule in place of or in addition to the specified percent reduction requirements. The emission limits for electricity generating units

and large affected boilers should include an averaging period. A de minimis size should be established and could be addressed by deferring to the final federal rule. (IMA) (ICC)

*Comment:* The draft rule includes a suggested level of control with a range from seventy percent to ninety percent (70% to (90%). Discussions have been held with the U.S. EPA concerning the appropriate level of control for large engines and the discussions have focused on low emission combustion (LEC) technology. It is recommended that IDEM should revise the rule to require LEC controls rather than requiring a specific level of reduction. In addition, IDEM should include the following definition in the rule concerning LEC:

“Low Emission Combustion Technology” or “LEC” means the modification of natural gas fueled, spark ignited, internal combustion reciprocating engines to reduce emissions of nitrogen oxides (NO<sub>x</sub>) by utilizing methodologies including, but not limited to, ultra-lean air-fuel ratios, high energy ignition systems or pre-combustion chambers, or both enhanced air-fuel mixing, increased turbo-charging, modifications to fuel valves or fuel delivery systems, modifications to exhaust systems, and increased cooling as required to achieve the higher of a consistent NO<sub>x</sub> emission rate of not more than one and five-tenths (1.5) to three (3.0) grams per horsepower-hour at rated capacity. While engines that are equipped with LEC that is designed to meet one and five-tenths (1.5) to three (3.0) grams per horsepower-hour standard will generally meet the design goal, the actual results for a particular engine may vary.

In addition to including the requirement for LEC, IDEM should include language that would allow a company to satisfy its obligations through equivalent reductions. While most engines are capable of installing LEC, there may be some instances when this is not available. There also might be situations where other control technologies may be more cost-effective. (ANR) (CMS) (MGT)

*Comment:* IDEM should establish an emission limit for utility boilers at twenty-five hundredths (0.25) pound per million British thermal units. This is appropriate level of control, is supported by modeling performed by IDEM and others and is the same level identified in the June 25, 1998 Governor’s proposal. IDEM does not need to require additional controls from other source categories to make up any difference between an emissions budget based on this emission limit and the budget in the final federal rule. The U.S. EPA has repeatedly stated that the budget is not enforceable against the states. It is clear that the NO<sub>x</sub> budget is nothing more than a planning tool that has no regulatory significance and this justification should be used for filing a program with a higher utility boiler emission limit. In addition, the limit for large industrial boilers should also reflect the Governor’s proposal and should be set at a fifty-five percent (55%) reduction from a 1990 baseline. (AEP) (IKEC) (ALCOA) (IPL)

*Comment:* Under 326 IAC 10-2-3(c) and 326 IAC 10-2-3(d), the draft rule includes a ten percent to thirty percent (10% - 30%) reduction in actual NO<sub>x</sub> emissions. However, the rule does not include what baseline emission level IDEM intends to use to measure the reduction. It should be specified whether it is the previous year, a base year, the five (5) month ozone season from a prior year, an average of the three (3) years that the ozone standard was exceeded, or some

other standard that should be used. The calculation methodology should be clarified for the sources that have no unit specific emissions data. It is also unclear how the requirement will affect new facilities, modified processes that meet BACT, facilities that have extended outages or reduced operations during a base year, sources for which there are no additional controls for reducing NO<sub>x</sub>, and for sources where it is not cost effective to apply controls. These issues must be clarified if these sources are ultimately included in a final rule. In addition, IDEM should provide information on the manner by which adjustments are made to the baseline inventory and 2007 budget information. (GEC) (SDI) (IPL)

*Comment:* A thirty (30) day rolling average is included under several subsections of 326 IAC 10-2-3 to calculate a percent reduction in actual NO<sub>x</sub> emissions. The rule is unclear as to when the thirty (30) day period starts and this should be clarified. This is also confusing with respect to a percentage reduction. It is understood that the percentage reduction is based on the number of tons emitted during the ozone season and not thirty (30) days. In addition, this language appears to see reduction from each piece of equipment. If this is the case, the goal of reducing emissions will become measurably more difficult, if not impossible, due to administrative burdens. (GEC) (NSC)

*Comment:* The draft rule language under 326 IAC 10-2-3 does not include an averaging period for electric generating units (EGUs), large affected boilers, and small affected boilers. Since the rulemaking focuses on the reduction of ozone and ozone season emissions, the appropriate averaging period is over the control period, May 1 through September 30. (IEU) (ALCOA) (IPL)

*Comment:* It would be useful to have some language in the rule that allows a mutually agreed emission limit or surrogate to be developed that can be more readily measured and that can provide data in support of compliance. A good example would be a maximum fuel throughput that has a significant correlation to NO<sub>x</sub> emissions. Production of energy intensive products compels the manufacturer to optimize the fuel consumption per ton of product, thereby indirectly encouraging the manufacturer to minimize NO<sub>x</sub> emissions. (DLC)

*Comment:* The limits for small affected boilers should be stated in terms of a rate-based limitation. The following rate based limits are proposed for small boilers using the various fuel types:

- Natural gas                      0.20 lb/MMBtu
- Distillate oil                    0.20 lb/MMBtu
- Residual oil                    0.40 lb/MMBtu
- Coal (spreader-stoker)      0.60 lb/MMBtu

(GMC)

*Comment:* The language concerning emissions reductions for units at large NO<sub>x</sub> sources not otherwise subject to control requirements should be revised to establish site-specific limits. The rule language should be changed to require sources to submit case-specific information and a proposal regarding emission limitations and reporting requirements. It is impractical to attempt to set a single reduction requirement for a population of unknown sources of unknown diversity. (GMC)

*Comment:* The requirements in 326 IAC 10-2-3(g) and (h) need to be linked to emissions testing before and after controls to determine the percentage reduction. (USEPA)

*Comment:* The rule language under 326 IAC 10-2-3(i) should be revised to require that a more stringent emission limitation established to achieve and maintain attainment of the NAAQS must be established through rulemaking. This will require the addition of a new rule, 326 IAC 10-4, but the more stringent site-specific limitation will need to be done through rulemaking. (IPL)

*Comment:* IDEM should consider compliance costs and more specifically that total control costs, including monitoring, capital recovery, and operation and maintenance, should not be required at a level greater than two thousand dollars (\$2,000) per ton. The procedures must also support compliance on a system-wide averaging basis. Trading must be allowed as long as the NO<sub>x</sub> emission limits are met. Holding allowances does not authorize a source to exceed its emissions limits and therefore restrictions on the use of the trading program are inappropriate. (IMA) (ICC)

*Comment:* The current draft rule language concerning emissions averaging is too restrictive and would not allow system-wide averaging. This is due to the requirements that averaging would only be allowed between like units and located at the same site or location. The rule language should be revised to increase flexibility and allow sources to engage in system-wide averaging if that is beneficial. The key is to reduce NO<sub>x</sub> emissions from the source, regardless of the unit from which the reductions are achieved. Specific changes include the following:

- Revise the rule to allow sources outside of Indiana, but within the area affected by the federal rule, to be included in the emissions averaging plans.
- Delete language requiring the units to be located at the same site or location or replace these terms with the word source and delete language requiring the units must be like units.
- Add language from 40 CFR 76.11 to provide clarity for the contents of an averaging plan.
- Add language to clarify monitoring requirements for sources that may be subject to more stringent monitoring rules.
- Revise the rule to delete the requirement that source must be under the same owner or authorized representative to address situations where a unit may have multiple owners.

The trading program should not be the only alternative for a source or group of sources to comply with the draft rules, as the trading mechanism itself imposes substantial administrative burdens on sources without added value. (AEP) (IKEC) (GEC) (IPL) (IEU) (ALCOA)

*Comment:* IDEM should include an equivalent reduction option in its rules to increase compliance flexibility. As part of the rule, each company would be required to reduce emission from all affected engines in the state. Companies would have the flexibility to achieve equivalent reductions by controlling NO<sub>x</sub> emissions from a larger population of engines under its control and ownership. Compliance would be demonstrated as follows:

- The source would submit an initial compliance plan that details the control strategy, the engines to be controlled and description of the monitoring, record keeping and reporting requirements.
- An initial compliance test approved by IDEM or the U.S. EPA on the affected unit or units



detailed in the source's initial compliance plan.

- After May 1, 2003, the sources adopting the equivalent reduction option would be responsible for ensuring compliance using an approved parametric monitoring system. CEMS would not be required. Annual compliance reports would be submitted to IDEM.
- Emission credits resulting from creditable decreases in emissions achieved during the control periods occurring after January 1, 1995 and prior to May 1, 2003 would count towards required budget reductions. (MGT)

*Comment:* The draft rule requires that units at large NO<sub>x</sub> sources must be tested using approved methods from 326 IAC 3 or 40 CFR 60. In the case of some emission units, emissions exit through roof monitors or multiple stacks and the specified testing methods do not address how such exit points will, or can, be effectively tested. Such structural or process situations should be considered and the rule should be revised to provide flexibility in these situations. (DLC)

*Comment:* The emissions averaging provisions included by IDEM would be subject to U.S. EPA's Economic Incentive Program Guidance. Alternatively, IDEM could include in the rule permanent source-specific emissions limits for each affected unit and, in a separate state implementation plan analysis, demonstrate that the set of limits would achieve the target emissions reductions. (USEPA)

*Comment:* In the background provided with the second notice, IDEM indicates that as part of this rulemaking, consideration has been given to a site-specific emissions budget for each utility or source. The concept of a site-specific emission budget is supported. A constant budget similar to the budget devised for sulfur dioxide emissions under the Acid Rain program allows source owners and operators to effectively plan and implement emissions reductions while maintaining sufficient growth to remain competitive. (IPL)

*Comment:* IDEM should revise the rule language under 326 IAC 10-2-4(3). The current language suggests that a source with a site-specific limitation cannot participate in the trading program. The language should be revised to allow participation in the trading program, but still require compliance with the site-specific limitation. (IPL)

*Comment:* If smaller sources are to be regulated and included in the rule, the burden for proving that a monitoring plan or an alternative is acceptable must be less stringent. (IMA) (ICC)

*Comment:* The draft rule would require that an engine, whether large or small, be equipped with a continuous emission monitoring system (CEMS) or an alternative calculation procedure be approved by IDEM and the U.S. EPA. The requirement for a CEMS is overly burdensome. Parametric monitoring is more appropriate in situations where emission reductions are achieved through engine modifications as opposed to add-on controls. This issue is being reviewed by the U.S. EPA. As to the option of an alternative calculation procedure, it appears little would be gained by requiring a large number of similar units to be subject to a case-by-case approval process when other parameters may be available to provide comparable data. IDEM should defer action on the alternative calculation procedure language until the U.S. EPA has reviewed engine monitoring procedures and should consider parametric monitoring for engines in place of CEMS

requirements.

A more reasonable monitoring requirement would be to require testing before and after implementation of controls to establish the hourly emission reduction and a baseline for controlled emissions. Actual emissions could then be estimated by multiplying the hourly emission rate by the number of operating hours in subsequent control periods. (ANR) (CMS) (MGT) (TGT)

*Comment:* The proposed monitoring and testing requirements under 326 IAC 10-2-5(d) provides an alternative calculational and record keeping procedure that appears to be subject to both IDEM and U.S. EPA approval. This approval would be accomplished by having IDEM approve the procedures and then the procedures would be submitted to the U.S. EPA. The initial rule should include some acceptable monitoring calculation methodologies in order to avoid the extensive delay in obtaining U.S. EPA approval on a case-by-case basis. If the intent of the alternative procedures is to provide some flexibility, IDEM should address the issue as part of the state implementation plan revision process and not place the burden of obtaining U.S. EPA approval on individual sources. (NS)

*Comment:* The draft rule would require CEMS to be installed on small boilers. This requirement dramatically increases the cost of NO<sub>x</sub> control and reduction and can be disproportionately large compared to the overall cost of the boiler itself. The CEMS requirement for such small emitters is unwarranted and unnecessary. Periodic emission stack testing and ozone season fuel usage reports should be adequate to demonstrate the required control. (GEC) (SA)

*Comment:* It does not appear that the monitoring provisions of the draft rules under 326 IAC 10-2 and 326 IAC 10-3 are consistent with the monitoring provisions currently included 326 IAC 10-1. IDEM should revise the rules to conform the monitoring provisions and make the continuous monitoring and testing requirements consistent for source categories affected under the various NO<sub>x</sub> rules in 326 IAC 10. (IEU) (IPL)

*Comment:* IDEM should clarify the rule language under 326 IAC 10-2-5(c) and 326 IAC 10-2-5(d). It appears that a large NO<sub>x</sub> source is identified under both subsections and it is not clear whether the requirements of subsection (c) or subsection (d) apply. (DLC)

*Comment:* The requirements under 326 IAC 10-2-5(d) should be revised to replace “it is equipped with” with “NO<sub>x</sub> emissions will be determined by” and adding “methods” after “following”. It is improper to refer to a unit using an alternate calculational and record keeping procedure as being “equipped with”. In addition, the requirement for submittal of approved procedures to the U.S. EPA infers that U.S. EPA must approve the procedures. U.S. EPA review and approval for methods applicable to small boilers would be excessively burdensome and could result in monitoring requirements that are not correlated to the significance of emissions. (GMC)

*Comment:* The language under 326 IAC 10-2-5(d)(2) should be revised to allow for the use of maximum potential concentrations of NO<sub>x</sub> and emission factors as part of an alternate emissions monitoring procedure under this subdivision. (IPL)

*Comment:* The quarterly reporting requirement for electricity generating units and large affected boilers is not appropriate given that the controls are only required during the ozone season that covers just five (5) months of the year. These units should have the same annual reporting requirements as the other affected units under the rule. (IMA) (ICC)

*Comment:* The annual reporting requirements under 326 IAC 10-2-6(c)(2) are supported. Annual submittals provide IDEM with sufficient assurance that the NO<sub>x</sub> budget is being met and relieves sources of onerous quarterly reporting. (NS)

*Comment:* The owner or operator of a NO<sub>x</sub> unit should be given a reasonable time to produce records or other information requested by this rule. The rule language should be revised to reflect this. (GEC)

*Comment:* The draft rules require quarterly reports that contain all of the information required under 40 CFR 75. The department should not require the submittal of sulfur dioxide (SO<sub>2</sub>) continuous emissions monitoring data, carbon dioxide (CO<sub>2</sub>) mass emissions and the related quality assurance data for those monitors beyond the scope needed to satisfy the requirements of the rule. (IEU)

*Comment:* The definition of unit load in 326 IAC 10-3-2 uses different criteria for units that generate electricity and those that do not. For units that generate electricity, the output is measured in terms of megawatts produced and is a measure of energy. However, for units that do not generate electricity, the output is measured in terms of steam pressure and is not a measure of energy. The definition should be revised to include steam energy output in place of steam pressure. (GEC)

*Comment:* The trading program should be accessible to smaller sources or units and non-traditional combustion units. As currently drafted, the trading program requirements make the program less inviting for these units or sources. NO<sub>x</sub> emissions are fungible from one source to another, regardless of the size or type of the unit. (IMA) (ICC) (GEC)

*Comment:* The definition of “unit load” is based upon steam pressure, but it should be based upon the quantity of steam produced in pounds per hour or the steam energy output in terms of million British thermal units per hour. Also, the definition of “maximum rated hourly heat input” should be deleted and replaced with “maximum design heat input”. This term is more appropriate and is broad enough to address issues covered by the definition of “maximum rated hourly heat input”. (IMA) (ICC) (GEC) (IPL)

*Comment:* The following revisions should be made to the definitions under 326 IAC 10-3-2:

- “Commence commercial operation” is not consistent with past agency practice on the subject of initial startup. IDEM should define “commercial operation” relative to consistent, reliable production, rather than just operation for any purpose.
- “Continuous emission monitoring system (CEMS)” should state that the NO<sub>x</sub> emissions are reported in pounds per hour rather than tons per hour.
- “Electric generating unit (EGU)” should refer to a capacity “greater than” and not “of” twenty-five (25) megawatts.
- “Generator” should be revised to add the phrase “for sale” at the end of the definition. This

reflects the intent of the federal rule that does not apply to large boilers producing electricity that is not sent to the electric distribution system (the grid). (IPL)

*Comment:* The language under 326 IAC 10-3-4(a)(3) does not require all sources to obtain NO<sub>x</sub> budget permits. This is inconsistent with 326 IAC 10-3-7(e) that seems to imply that the permit acts as the tool that implements the program. In addition, the compliance certification provision further support the need for a valid NO<sub>x</sub> budget permit. (IPL)

*Comment:* The language under 326 IAC 10-3-7(b)(1)(B) requires permit applications eighteen (18) months in advance for new NO<sub>x</sub> budget units. As has been done with other programs, IDEM should consider NO<sub>x</sub> budget permit applications timely if they are submitted with, or at any time in advance of, a construction permit application or an application for modification of an existing Title V permit for a new unit. (IPL)

*Comment:* The department appears to want a complete Title V or FESOP application as part of the NO<sub>x</sub> permit application under 326 IAC 10-3-7(c). A complete Title V or FESOP permit is not necessary, especially for an initial NO<sub>x</sub> budget permit. IDEM should clarify the requirements and develop a standard form or forms that contain the required information and make the form or forms available to affected sources. (IPL)

*Comment:* IDEM should provide clarifying language under 326 IAC 10-3-8 stating that owners or operators will not be required to duplicate the NO<sub>x</sub> budget program compliance certification as part of the Title V annual compliance certification under 326 IAC 2-7. (IPL)

*Comment:* Allocations and allowances should be allowed for as long as possible and should be allocated for at least ten (10) year periods. A longer life provides market certainty and allows the system to function more efficiently and effectively. (IMA) (ICC) (GEC) (IEU) (AEP) (IKEC) (ALCOA) (IPL)

*Comment:* The draft rule language under 326 IAC 10-3-9(b)(2) may potentially penalize sources if IDEM fails to submit the required allowance allocation information to the U.S. EPA prior to April 1, especially in a year where new sources would be rolled in to the allocation pool. IDEM should revise the rule language so that new sources do not miss an allocation due to a failure by the department to act. (IPL)

*Comment:* IDEM should retain the provisions for a compliance supplement pool. Distributing allowances to sources that implement or have already implemented controls encourages early compliance and provides more immediate benefits. The pool should not be limited to sources that make reductions “beyond all applicable requirements”. Any source that reduces emissions prior to 2003 to levels that satisfy the rulemaking should receive a one to one (1:1) credit against the pool. Sources should also receive credit if the reduction goes beyond the reduction required by rule and credit should be given to those sources that make some reduction even if the reduction does not satisfy the rule requirements. It may be necessary to retain a portion of the pool for “need-based” compliance, but undue dependence on need-based allowances should be discouraged and no more than ten percent (10%) of the pool should be retained for need-based allowances. (NS)

*Comment:* The new source set-aside provisions should be retained and should include

allowances for existing sources operating at less than permitted levels. Existing sources that were in various stages of startup should be allowed to increase emissions up to permitted levels and should not be penalized merely because of the time frame in which the U.S. EPA calculated baseline emissions. Such sources should be allowed to request allowances that would authorize the source to operate at its intended capacity. (NS)

*Comment:* IDEM should allocate allowances to sources based on uniform criteria, regardless of any local emission limits that may limit the use of the allowances. This allocation scheme would potentially help provide a more fluid market than adjusting allowances to take local control requirements into account. (AEP) (IKEC)

*Comment:* The new source set-aside provisions should be retained, but the provisions should be revised. Based on a ten (10) year allocation period, a new source set-aside should be included for the first allocation period, but the size should be reduced to two percent (2%) of the applicable budget. The rule should also provide that only sources commencing operation prior to May 1, 2006 would receive allowances from the set-aside. (IEU)

*Comment:* The new source set-aside provisions should be revised to establish a two percent (2%) set-aside for the control periods in 2003 through 2005 and no set-aside thereafter. The larger new source set-asides will inhibit the growth and development of a viable trading market for NO<sub>x</sub> allowances. (IPL)

*Comment:* Allowances should be based on heat input. An allocation methodology based on output should be rejected. (AEP) (IKEC)

*Comment:* The allocation methodology for individual opt-in units is based on a specific emission rate or an allowable emission rate, whichever is more stringent. Opt-in units should not be penalized for having low emission rates and allowances should be allocated based on a specific emission rate that applies to all units and not the actual emission rate of the unit. (IPL)

*Comment:* The draft rule language under 326 IAC 10-3-13(g)(7) allows IDEM to deny a request by a opt-in unit to withdraw from the trading program. IDEM should include the criteria that will be the basis of a denial. (IPL)

*Comment:* The draft rules would establish an overdraft account for sources with multiple budget units. IDEM should clarify in rules or guidance the following issues:

- What are the parameters of the overdraft account, for example, the percentage of allowances set aside for overdraft purposes for each unit and access to allowances in the overdraft account outside the scope of the true-up?
- Can allowances be traded out of overdraft accounts?
- Is there a specific minimum balance that must be maintained in an overdraft account? (IPL)

*Comment:* IDEM should provide a safe-harbor for good-faith compliance if highly cost effective controls are unavailable. Under the final federal rule, NO<sub>x</sub> emissions are presumed to make a significant contribution to ozone nonattainment if they can be controlled through highly cost effective control measures, costing up to two thousand dollars (\$2,000) per ton. In addition, the final federal rule is based on the adoption of a broad-based trading program that is designed to allow systems that would face higher control costs to purchase emission allowances on a cost-

effective basis from other systems in trading program. The trading program is nonexistent at this time and if the trading program would fail, systems that cannot implement highly cost effective controls may be put in jeopardy. To account for this possibility, IDEM should provide a safe harbor in the form of a federally enforceable compliance plan. The compliance plan would require sources to do the following:

- Implement available highly cost effective controls (up to two thousand dollars (\$2,000) per ton of NO<sub>x</sub> reduced); or
- Purchase cost effective emission allowances (up to two thousand dollars (\$2,000) per ton) that are available through the trading system; but
- Not require sources to implement controls or purchase allowances that are ineffective and outside of U.S. EPA's control strategy for NO<sub>x</sub> reductions.

The plan would be submitted and approved by IDEM and would provide public notice and comment of the plan. As part of the plan requirements, sources would have to describe the control measures that can and would be implemented, commit to purchases allowances necessary for compliance at a price up to two thousand dollars (\$2,000) per ton of NO<sub>x</sub> reduced, and provide annual reports and certifications concerning implementation of the plan.

The compliance plan would reduce compliance costs and prevent a catastrophic shut-down of a system if sufficient emission allowances cannot be purchased at any price. This is also consistent with the basis of the final federal rule in providing highly cost effective control measures. (IPL)

*Comment:* The trading rule includes language concerning violations and penalties that are outside of IDEM's statutory authority, go beyond what is required to respond to the final federal rule, and should be deleted. Indiana's statutes provide that a person is liable for penalties on a per day basis, but the draft trading rule establishes that each ton of excess emissions is a separate violation. Also, the trading rule would require the forfeiture of three (3) allowances for each ton of excess emissions. This is a non-monetary penalty that IDEM does not have authority to impose. Finally, the penalty guideline in 326 IAC 10-3-10(k)(7) assumes that any excess emissions constitute a violation across each of the one hundred fifty-three (153) separate days. The days of violation would properly be determined by identifying the days on which emissions occurred after the necessary emission allowances had been exhausted. (IPL)

*Comment:* The draft rules include detailed procedures in 326 IAC 10-3-12 for certification of monitoring data from CEMS. This equipment will have a normal failure rate and even properly functioning monitors will sometimes fail certification procedures. In 326 IAC 10-3-12(i), the draft rule require, upon disapproval of a certification, all previous data from a monitor will be discarded and maximum potential emissions will be assumed throughout the monitoring period. The rule should be revised to allow the owner or operator to provide reliable information showing the actual level of emissions during the period. (IPL)

*Comment:* IDEM should clarify the relationship between 326 IAC 3-5 and 326 IAC 10-3-12. 326 IAC 3-5 may impose conflicting requirements and unnecessary reporting burdens on a source and 326 IAC 10-3-12 should be revised to state that the provisions of 326 IAC 3-5 do not

apply to sources monitoring NO<sub>x</sub> for compliance with the NO<sub>x</sub> budget trading program. The revision should clarify that meeting the quality assurance and quality control requirements outlined under 40 CFR 75 are sufficient to meet the requirements of 326 IAC 3-5. (IPL)

*Comment:* The compliance deadline for installation and operation of monitoring systems should be revised to May 1, 2003. This revision is needed because the provisions of the trading program are not effective until this date. (IPL)

*Comment:* The rule language under 326 IAC 10-3-12(f)(3) should be revised to delete the phrase “or a non-NO<sub>x</sub> budget unit monitored under 40 CFR 75.72(b)(2)(ii)”. If the unit is not a NO<sub>x</sub> budget unit, it would not be subject to the rule. In addition, the list of periods during which data may not be available should include monitoring system malfunctions. Not all units that will be part of this trading program, and therefore subject to the provisions contained at 40 CFR 75, will have redundant monitoring systems available and as such, during periods of missing data, the data substitution routines contained under 40 CFR 75 would be used. (IPL)

*Comment:* IDEM should clarify that monitoring systems currently installed and certified for use in the Acid Rain program will not require recertification under 326 IAC 10-3-12(h)(3) unless activities described in the Acid Rain program regulations that require recertification. On May 26, 1999, the U.S. EPA published revisions to 40 CFR 75, Subpart H monitoring requirements and has provided the clarification by replacing all references to “recertification testing” with terms such as “diagnostic testing” or “quality assurance testing”. (IPL)

*Comment:* Under 326 IAC 10-3-12(n), there is a requirement for submittal of a written notice in accordance with 40 CFR 75.61. IDEM should clarify this requirement by including information on the contents of the specific notice requirements. (IPL)

*Comment:* IDEM should not adopt an energy efficiency/renewable energy set-aside as part of a NO<sub>x</sub> budget trading program. Unless there is certainty that at least the same number of allowances will be returned to the trading system as were withheld in a given year, this represents a net decrease in the overall trading budget that will create a still more stringent emission limit. Coupled with the new source set-aside that has been proposed, the emissions cap will effectively be up to twenty percent (20%) more stringent. Creation of an energy efficiency reserve will therefore require installation of additional controls, raise the compliance costs, and further reduce the benefits of allowance trading. Operators of electricity generating units will already be planning for the most cost-effective means of compliance and this means that they will evaluate a full range of technological reductions, NO<sub>x</sub> allowance purchases, and emission avoidance through dispatch changes. In the last case, this will mean that purchased power or energy efficiency projects may receive a premium based on the amount that the unit avoids paying for an allowance or capital investment. (IEU) (AEP) (IKEC)

*Comment:* IDEM should revise the early reduction credit distribution methodology to increase the availability of early reduction credits (ERCs). The revisions should be based on one (1) of the following options:

- If the allocations are based on less than twenty-five hundredths (0.25) lb/MMBtu, then an unrestricted ERC and compliance supplement pool should be provided. ERCs would be

available for all NO<sub>x</sub> reductions below Title IV (acid rain) limits in 2000, 2001, and 2002 and direct compliance extension allowances would be available for a one (1) year extension to May 1, 2004 for selective catalytic reduction (SCR) retrofit with a reasonable demonstration as required by IDEM to cover those sources that cannot meet the 2003 compliance deadline at a reasonable cost.

- If the allocations are based on less than twenty-five hundredths (0.25) lb/MMBtu, the ERC pool would be limited to twenty thousand three hundred ninety (20,390) allowances each year for 2000, 2001, and 2002. ERC allowances could be generated for all NO<sub>x</sub> reductions below acid rain limits in 2000, and for all NO<sub>x</sub> reductions below a 2000 baseline in 2001 and 2002. Direct compliance extension allowances would be available as stated above.

An application window for requests of early reduction credits with all sources receiving a pro rata share of allowances rather than a first come, first served scheme should be provided. (IEU) (IPL)

*Comment:* The direct distribution provisions under 326 IAC 10-3-15(b)(2)(D) includes a requirement for a public hearing prior to the allocation of allowances for the compliance supplement pool. If a NO<sub>x</sub> budget unit is able to meet the very stringent “need based” criteria outlined in the draft rule, the allowances should be deemed appropriate and allocated to the source. The rule should include language that contains provisions for determining what is appropriate, so that a source in need of compliance extensions is not subject to some arbitrary decision based on negative public comments that may not be relevant to either the need for compliance extensions or the appropriateness of allocating allowances from the pool. (IPL)

*Comment:* The flow control provisions should be revised and include the following:

- The two to one (2:1) offset ratio should be changed to a one and three-tenths to one (1.3:1) offset ratio.
- The provisions concerning when flow control would be triggered should be changed so that flow control is not triggered unless the banked allowances exceed twenty percent (20%) of the total annual trading budget. (IEU) (IPL)

*Comment:* IDEM should identify a mechanism to alleviate allowance shortages that may occur during a flow control period. It is possible that some source categories may target reductions that are cost effective to implement and therefore generate excess allowances early in the program. If this occurs, it is possible that source categories faced with higher relative control costs could be penalized through substantial allowance losses during flow control periods. The result will be an all-out bidding war for NO<sub>x</sub> allowances that will skyrocket the relative cost of allowances. (IPL)

*Comment:* There are several instances where internal references or references to federal regulations are incorrect. IDEM should correct these references in the final rule. (IEU) (IPL)

*Comment:* The requirement that all NO<sub>x</sub> budget units at the source have the same authorized account representative fails to take into account sources where there are multiple owners. In a situation where there may be two (2) or more owners of a unit, there should be some flexibility in defining the account representative. For example, a unit may be owned by two (2) companies, but one company may have the ability to compete with the other in the electricity market place.



Requiring either company to represent the other would place sensitive cost information in a competitor's hands. This situation has been dealt with under the Acid Rain program and IDEM should revise the rule to reflect the flexibility offered under that program. (ALCOA)

*Comment:* There is concern with the language under 326 IAC 10-3-4(c)(6) that states that nothing in these regulations limits the authority of either IDEM or the U.S. EPA to terminate or limit a source's right to emit under an allowance. The language is clearly overreaching, appears to violate due process of law and must be deleted. (ALCOA)

*Comment:* The language under 326 IAC 10-3-4(c)(8) appears to give force of law to every U.S. EPA recordation of an allowance transfer or deduction without any further review. While practicality calls for being able to reasonably rely on allowances a source receives under this system, foreclosing all review is hardly legal. If a mistake is made for whatever reason, there must be a mechanism to correct the error. IDEM should revise the language to provide a method for review. (ALCOA)

*Comment:* IDEM should revise the allocation methodology as it pertains to large industrial boilers. The draft rule allows a utility to use the average of the highest two (2) years of 1995, 1996, and 1997 when determining the heat input to be used to allocate allowances. This is done to account for a year where an outage may have occurred and the heat input data would not be representative of the normal operation. This is also appropriate for industrial boilers. The U.S. EPA does allow the individual states flexibility in developing an allocation methodology as long as the overall budget is achieved. IDEM should utilize this flexibility and revise the rule to make the allocation methodology for industrial boilers consistent with that used for utility boilers and allow multi-year averaging. (ALCOA)

*Comment:* The provisions under the individual opt-in section requires a unit to be operating before it is allowed to opt-in to the trading program. The definition of operating includes the requirement to be operating for eight hundred seventy-six (876) hours in the six (6) months prior to application. IDEM should clarify whether or not the time requirement continues after an opt-in unit application is approved. (IPL)

*Response:* The agency has reviewed and considered the comments received. Due the significance of the comments and the magnitude of the changes that will be required to address the comments, IDEM has decided that the changes should be incorporated into new draft rules and the revised draft rules republished in another second notice of comment period. This will allow interested parties to review and comment on the revised draft rules.

## **SUMMARY/RESPONSE TO COMMENTS FROM THE SECOND COMMENT PERIOD, FEBRUARY 1, 2000, THROUGH MARCH 1, 2000**

The Indiana Department of Environmental Management (IDEM) requested public comment from February 1, 2000, through March 1, 2000, on IDEM's draft rule language. IDEM received comments from the following parties:

NiSource

(NS)

United States Enrichment Corporation	(USEC)
Indianapolis Power and Light	(IPL)
Valley Watch	(VW)
State Line Energy	(SLE)
Wisconsin Department of Natural Resources	(WDNR)
Bethlehem Steel Corporation	(BSC)
Stephen Loeschner	(SL)
Purdue University	(PU)
Sierra Club-Hoosier Chapter	(SCHC)
Ispat Inland Incorporated	(III)
Aluminum Company of America	(ALCOA)
Indiana Petroleum Council	(IPC)
BP Amoco Oil	(BP)
Indiana-Kentucky Electric Corporation	(IKEC)
Indiana Electric Utility Air Work Group	(IEG)
Cinergy Corporation	(CIN)
Hoosier Energy Rural Energy Cooperative, Incorporated	(HE)
Marjorie Hensley	(MH)
Hoosier Environmental Council	(HEC)
Citizens Action Coalition of Indiana	(CAC)
American Lands Alliance	(ALA)
Tracy Carson	(TC)
Environmental Law and Policy Center of the Midwest	(ELP)
Max Goodwin, Esquire	(MG)
Grand Cal Task Force	(GCTF)
George Hegeman, Ph.D.	(GH)
Indiana Division-Izaak Walton League of America	(IWL)
Natural Resources Defense Council	(NRDC)
Save the Dunes Council	(SDC)
Save the Valley	(SV)
Save Our Land and Environment	(SOLE)
Save Our Rivers	(SOR)
Sierra Club-Five Rivers Group	(SCFRG)
Tim White, M.D.	(TW)
American Electric Power	(AEP)
Southern Indiana Gas and Electric Company	(SIGECO)
Vanderburgh County Department of Health	(VCDH)
Richmond Power and Light	(RPL)
Dr. Douglas W. Naffziger	(DWN)
U.S. Steel Group	(USS)

Following is a summary of the comments received on the Second Notice of Comment Period published on February 1, 2000, and IDEM's responses thereto. Comments received outside of the comment period are not listed here, but IDEM will consider them when determining appropriate changes that should be included in the draft rule.

On March 3, 2000, after the publication of these draft rules, the D.C. Circuit Court of Appeals issued a decision upholding U.S. EPA's NO<sub>x</sub> SIP call. Further appeals of this ruling have been filed and the Court has not yet ruled. As the federal program continues through the legal process, IDEM has determined that it should proceed with this state NO<sub>x</sub> program to assure that NO<sub>x</sub> reduction requirements necessary for Indiana's ozone standard attainment demonstrations are in place by December 2000. However, IDEM will also begin a rulemaking to adopt the NO<sub>x</sub> SIP call, anticipating ultimate resolution of the legal challenge and prompt compliance deadlines.

The responses provided reflect IDEM's approach to addressing Indiana's ozone nonattainment areas and the U.S. EPA NO<sub>x</sub> SIP call. This rulemaking is not as stringent as the SIP call and does not include all of the source categories that U.S. EPA focused on in the federal rulemaking. Some options or requirements for which parties have provided comment, such as the trading program and energy efficiency incentives, will not be included in this rulemaking, but will be deferred to the NO<sub>x</sub> SIP call rulemaking. In addition, some of the innovative approaches that have been presented by commenters may not be included in this rulemaking, but could be revisited as IDEM works on rule language addressing the NO<sub>x</sub> SIP call.

IDEM will be moving forward with this rulemaking to have a rule in place by the end of 2000 or early 2001. The reductions required under this rulemaking will be used as part of the ozone attainment demonstration for Clark, Floyd, Lake and Porter Counties. A separate rulemaking will be initiated to address the NO<sub>x</sub> SIP call.

### General

*Comment:* The proposed rules set standards for all electric generating stations state-wide rather than focusing on nonattainment areas. IDEM should evaluate in more detail the need for state-wide NO<sub>x</sub> reductions as opposed to more limited, local controls. A state-wide "one size fits all" emission limit should not be required. Subregional modeling should be performed to justify the need for any emission limit. IDEM should propose a limit on electrical generating units (EGUs) located remotely from nonattainment areas only if it can be justified based on subregional modeling. It is disconcerting that IDEM has followed U.S. EPA's lead and proposed a "one-size-fits-all" rule for the entire state. IDEM should perform modeling to ascertain those sources that are truly contributing to the northwest Indiana ozone problems. The rule is overly stringent and is not necessary to attain compliance with the ozone standard. Only four (4) counties are currently nonattainment for the one (1) hour standard and the classification may be

based on old data. Even if there are ongoing problems in the nonattainment areas, this does not support broader state-wide controls. The rule is void because it provides no evidence that IKEC's and RPL's emissions have a meaningful impact on any nonattainment area. Modeling done by U.S. EPA as part of the SIP call looked at the four (4) nonattainment counties. This modeling shows that the rest of Indiana does not significantly contribute to the one (1) hour nonattainment in these four (4) counties and any contribution is not even a one percent (1%) contribution. IDEM has not attempted to identify any ozone contributions from individual states, nor any distinguishing effects caused by emissions from within the nonattainment areas and the rest of Indiana. U.S. EPA's state-by-state modeling also shows that the rest of Indiana makes no significant contribution to nonattainment in northwest Indiana. In short, no data support the adoption of new, state-wide controls in Indiana. Monitoring results from the full implementation of current requirements should be assessed to determine whether attainment may be achieved based on these requirements. If IDEM wants to take steps to meet the one (1) hour standard in nonattainment areas, then the focus should be on obtaining results in those areas. If the goal is to address ozone transport, IDEM should postpone rulemaking until litigation is completed at the federal level and there is clear direction from the courts. The proposed rule, to the extent it requires reductions from emission sources unrelated to specific ambient air quality consideration under Section 110 of the Clean Air Act (CAA), is invalid. More localized NO<sub>x</sub> reductions should have been tested and implementing a statewide NO<sub>x</sub> emission rate limit is not justified given the absence of modeling that tested local controls. The best available modeling data show that such controls will be ineffective outside the four (4) counties currently classified as nonattainment. (USEC) (VCDH) (ALCOA) (IPL) (IKEC) (AEP) (RPL)

*Response:* IDEM has evaluated localized controls using subregional modeling for both the northwest Indiana/Chicago and the southeast Indiana/Louisville areas and has not been successful in demonstrating attainment of the standard. This was clearly shown in the earlier Lake Michigan Air Directors Consortium (LADCO) modeling study for the Chicago area and SAI modeling study for the Louisville area. This was also the case in other areas of the nation, which led to the formation of the Ozone Transport Assessment Group (OTAG). OTAG conducted a two (2) year study of regional ozone and concluded that regional NO<sub>x</sub> reductions were the most cost-effective next step to addressing ozone issues. Indiana specific modeling since completion of the OTAG study shows that the only reasonable strategy to meet the standard is through regional NO<sub>x</sub> controls. Modeling analyses show that at some time during the episodes used, emissions from state-wide NO<sub>x</sub> sources do contribute to nonattainment and maintenance problems. IDEM has modeled several episodes involving a variety of regional meteorological patterns. In many of these episodes, the emissions from these sources when added to the levels of NO<sub>x</sub> in the regional plumes do impact nonattainment and maintenance areas.

In addition to Indiana's one (1) hour ozone nonattainment areas, moreover, statewide NO<sub>x</sub> reductions will also assure that Indiana's ozone maintenance area continue to meet the one (1) hour standard. Ozone values in the Indianapolis, Evansville, and South Bend/Elkhart maintenance areas have been high enough to trigger further air quality analysis and evaluation of

control measures as specified in the maintenance plans.

The nonattainment area status reflects current data. Measured ozone levels in Lake and Porter Counties have met the standard for the past several years, but the counties are part of a larger nonattainment area which does not meet the standard. As stated above, nonattainment area controls only are not sufficient to attain the standard. The concept of regional transport of ozone and precursor transport is well known. The most recent modeling conducted by IDEM and LADCO does show that Indiana sources make substantial contributions to nonattainment and maintenance area problems and that regional controls are necessary to achieve the standard.

*Comment:* The rule is not economically feasible and IDEM is required by statute to account for economic reasonableness. (IKEC) (AEP) (RPL)

*Response:* IDEM believes the rule is economically feasible and has prepared a fiscal impact analysis providing cost information. IDEM has also included provisions for emissions averaging and alternative methods of compliance monitoring in the rule that will assist in reducing the compliance costs.

*Comment:* To the extent the rule relies on U.S. EPA guidance to demonstrate attainment, it is void because the guidance has never been promulgated as a rule and has no legal effect. (IKEC) (AEP) (RPL)

*Response:* The Clean Air Act (CAA) requires IDEM to address nonattainment areas and IDEM has the authority under state rulemaking statutes to adopt rules to meet CAA requirements. Modeling runs are only tools used to determine the appropriate controls to be implemented.

*Comment:* The rule is invalid because it addresses other states' air quality, and therefore is outside of the jurisdiction of IDEM. (IKEC) (AEP) (RPL)

*Response:* This rule applies to emitting sources located in Indiana that are subject to Indiana law and is clearly within IDEM's jurisdiction. It will have significant positive environmental impacts on air quality both inside and outside Indiana, as do other rules. Moreover, modeling studies have shown that regional controls at the level specified in this rule are necessary to achieve attainment in Indiana. Difference plots developed from modeling runs show that controls on Indiana sources have major positive impacts statewide in Indiana, including maintenance and nonattainment areas.

*Comment:* IDEM should include a specific statement of purpose of the NO<sub>x</sub> reduction rule in the rule itself. (IKEC) (BSC)

*Response:* While federal regulations many times include a statement of purpose, this is not done in Indiana rules.

*Comment:* The control period should be changed to apply from April to October or even

March through October. IDEM should recognize that the warmer days associated with ozone formation are occurring both earlier and later in the traditional ozone season. (SCHC) (VW) (HEC) (CAC) (ALA) (TC) (ELP) (MG) (GCTF) (GH) (IWL) (NRDC) (SDC) (SV) (SOLE) (SOR) (SCFRG) (TW) (VCDH) (DWN)

*Response:* The time period of May through September is consistent U.S. EPA's NO<sub>x</sub> SIP call, during which conditions are conducive to the formation of ozone in Indiana. There are no monitoring data to support the need for reductions to meet the standard during these additional months. Indiana has collected limited ozone data for April, only forty-three (43) months at various sites from 1990 to present, but has recorded only four (4) days with one (1)-hour values over eighty parts per billion (80 ppb), the highest being eighty-six (86) ppb. Indiana has collected two hundred ninety-five (295) months of September data during the same time period. There have been four (4) days above the standard, none after September 13. There are not enough October monitoring data from Indiana to form any conclusions. However, Kentucky collects data during October and has never recorded a value above the standard during that month.

*Comment:* The utility industry has provided comments concerning the reductions required and the possibility of brownouts and blackouts due to the installation of control equipment. Information is available that indicates that there is enough electrical generation available to allow for the exportation of electricity out of Indiana. In addition, many public facilities have redundant feeders that alleviate having to depend on a single provider. Energy reliability should not be a factor and any concerns should be easily rectified through investments in energy efficiency and self-restraint on the part of utilities in selling power outside of Indiana. (SL) (HEC) (CAC) (ALA) (TC) (ELP) (MG) (GCTF) (GH) (IWL) (NRDC) (SDC) (SV) (SOLE) (SOR) (SCFRG) (TW) (VW) (SCHC)

*Response:* IDEM believes that this rule can be implemented without interruption in power supply. However, the possible impact of this rule on energy reliability is an important issue, and IDEM will continue to discuss it with all parties throughout the rulemaking process.

*Comment:* Other options for reducing NO<sub>x</sub> should be considered, specifically reductions from mobile sources. (BSC)

*Response:* With respect to mobile sources, U.S. EPA is moving forward with several national programs intended to reduce NO<sub>x</sub> emissions. Federal Tier II and low sulfur standards have been evaluated in the modeling and do provide positive benefits, especially on a local level. IDEM has carefully reviewed Indiana's NO<sub>x</sub> point source inventory to identify all possible types of sources where reductions could be achieved and evaluated, to the extent there is information available, the comparative cost-effectiveness of different approaches. The point sources covered by this rule make up over eighty percent (80%) of Indiana's point source emissions and appear to be the most cost-effective to control.

*Comment:* The rule should specifically state that reductions or monitoring costs exceeding two thousand dollars (\$2,000) per ton shall not be required. (BSC)

*Response:* The two thousand dollar (\$2,000) per ton figure that is used by U.S. EPA and IDEM to judge whether the rule is cost effective is not based on a single source cost. Source specific costs to comply with this rule, as with many rules, are highly variable. The cost figure is a regional average of compliance costs. The goal of the rule is to achieve compliance with state and federal health standards. The average cost to comply, as detailed in IDEM's fiscal analysis, are reasonable. The system-wide averaging option provided in the rule further serves to make compliance more cost-effective.

*Comment:* The rule proposes sweeping restrictions on NO<sub>x</sub> emissions at major utilities and other sources throughout Indiana. State-wide controls would cost Indiana residents and businesses hundred of millions of dollars in needless costs as compared to controls targeted to the four (4) nonattainment counties, reduce the reliability of electric service, and create unnecessary risks to construction workers performing the required retrofits. (IPL)

*Response:* As stated above, controls limited to nonattainment areas are not sufficient to meet the ozone standard. Among available control options, this rule is the most cost-effective approach, and should not threaten energy reliability.

*Comment:* The comment period should be extended because of changes to the rule language and the purpose of the rulemaking. The implications of these rules are too important to be adopted prematurely and without adequate comment. In addition, it is important to provide an opportunity to comment on the rules after all supporting modeling work and economic impact analyses have been available. (VCDH)

*Response:* IDEM agrees that this is a significant rule that warrants sufficient opportunity for public input. IDEM has provided three (3) comment periods to date and has held several public meetings to gather input from interested parties. In addition, there will be three (3) additional opportunities for comment. There will be a public hearing prior to the two (2) board meetings that will be required and a third comment period after preliminary adoption.

*Comment:* The rulemaking process has been procedurally flawed because IDEM did not publish a proper first notice for public comment and the republication of the second notice of comment period only allowed twenty-nine (29) days for comment, not the required thirty (30) days. IDEM should suspend further action on the proposed rule as applied on a state-wide basis. The rulemaking began over a year ago with two purposes: (1) to comply with the NO<sub>x</sub> state implementation plan (SIP) call and (2) to assist with attainment of the eight (8) hour standard. Neither purpose is valid due to court actions in May 1999. Currently, IDEM states in the public notice that the purpose of the rulemaking focuses on the older one (1) hour standard and reducing ozone transport. (IPL) (IKEC) (BSC) (RPL)

*Response:* The first notice of comment period specifically mentioned that reducing ozone

transport was one of the goals with the rulemaking. While the “at risk” areas were mentioned, the notice also discussed the fact that controls that have been put in place in the past have not been enough to provide healthy air for all Indiana citizens and NO<sub>x</sub> reductions were needed. IC 13-14-9-2 requires IDEM to conduct a comment period of at least thirty (30) days, but does not specify how the thirty (30) days should be counted. The second notice of comment period was published in the Indiana Register on February 1, 2000 and the comment period ended on March 1, 2000. Being a leap year, February contained twenty-nine (29) days and adding March 1 makes for a thirty (30) day comment period when counting the day of publication.

*Comment:* This rule is inadequate to respond to the NO<sub>x</sub> SIP call because it does not require the same level of control and includes a system averaging program as opposed to a cap and trade program. There are questions concerning the course IDEM will take when the litigation on the SIP call is resolved, whether or not the current rule is flexible enough to make changes without rewriting the entire rule and whether sources can easily add on additional controls to attain the fifteen hundredths pound per million British thermal units (0.15 lb/mmBtu) limit in the NO<sub>x</sub> SIP call. In addition, should a fifteen hundredths (0.15) lb/mmBtu eventually be required, the improvements in air quality will most likely occur some time beyond the 2003 ozone season, because with this rule in place, there is likely to be a delay in implementing the more stringent controls. (VCDH)

*Response:* This rule is not a response to the NO<sub>x</sub> SIP call, rather it is needed for attainment of the ozone standard in Indiana. IDEM will be working with regulated industry and others to provide as smooth a transition as possible from this rule to a rule that responds to the SIP call, if and when the legal challenge is resolved.

#### Definitions (326 IAC 10-0.5)

*Comment:* Definitions should include the definition of coal under 40 CFR 60, Subpart Db that is broader than the current definition. (HE) (IPL) (IEG) (SLE) (NS) (AEP) (SIGECO)

*Response:* IDEM agrees and has revised the definition of coal.

*Comment:* The definition of “fossil fuel” under 40 CFR 60.41 should be included in the rule and the rule should be revised where appropriate and include “coal or other solid fossil fuel”. It has been determined that petroleum coke satisfies the criteria as a solid fossil fuel. (IPL)

*Response:* It is not clear that there is a need for a definition of “fossil fuel”, because the term is not used extensively in the rule. The definition of coal has been expanded to include petroleum coke. IDEM has deleted the phrase “fossil and other fuel-fired” from the definitions of boiler and combustion turbine to reduce any confusion. The definition of “fossil fuel” may be included as a result of the NO<sub>x</sub> SIP call in a separate rulemaking.

*Comment:* The definition of industrial boilers should be revised to:



- Delete the phrase “including boilers used by electric utilities that are not utility steam generating boilers” to allow owners to average emissions among all units.
- Include the combustion of biomass and petroleum coke.
- Delete the term “devices” because it is too broad and could lead to the inclusion of hot water heaters and other small units. (IPL) (NS)

*Response:* IDEM agrees that the term “devices” should be deleted. The rule already includes all fuels. It is not clear why the phrase “including boilers used by electric utilities that are not utility steam generating boilers” would restrict the affected units that could be included in an averaging plan.

*Comment:* A new definition should be included for a “gas fired unit” to be consistent with definitions for oil and coal fired units. (IEG) (SLE) (NS)

*Response:* IDEM agrees and has included a definition for “gas fired unit”.

*Comment:* The definition of “gas” should have a reference to pipeline gas and the definition of natural gas should be amended to identify criteria for sulfur content and heat content for pipeline gas. (SL)

*Comment:* The definition of “propane” should include a technical definition of what is propane, such as the amount of sulfur or percentage of alkane, and not general terms such as “heavy”. (SL)

*Response:* Sulfur content, heat content, and percentage of alkane are not critical for a rule that focuses on NO<sub>x</sub> emissions.

*Comment:* The definition of “owner or operator” should be revised to reflect that it is referring to the unit and not the source. This is consistent through the rule. (BSC)

*Response:* IDEM agrees and has revised the definition.

*Comment:* The definition of “electrical generating unit” should be clarified to be consistent with 40 CFR Part 75. (BSC)

*Response:* There is not a definition of “electrical generating unit” in 40 CFR 75 and the suggested language appears to reflect part of the definition of “utility unit” found under 40 CFR 72.2. However, that part of the definition only addresses cogeneration units and not all electricity generating units.

*Comment:* The definition for “baseline year” should be clarified to state if the intent is to have representative of normal operations be representative of operations during the ozone season or the entire year and the word “of” should be inserted between “effective date” and “326”. (NS)

*Response:* IDEM agrees and has clarified the definition and made the correction.

*Comment:* The definition of “actual emissions” should be revised to delete the reference to

actual emissions within the definition. (VCDH)

*Response:* IDEM has revised the definition.

Clark and Floyd (326 IAC 10-1-1(e))

*Comment:* Clarification should be provided that 326 IAC 10-2 only applies during the control period and a source subject to both rules is not required to comply with 326 IAC 10-2 throughout the entire year. Also, language should be included that clarifies applicability possibly by making the stringency determination based on the applicable emission rate. (IPL)

*Response:* IDEM has revised the language for clarification, but believes that the stringency determination should not be based solely on the emission rate.

Applicability (326 IAC 10-2-1)

*Comment:* IDEM has presented modeling information that shows an attainment strategy that relies on utility NO<sub>x</sub> reductions and local volatile organic compounds (VOC) controls in the Chicago area. IDEM has also stated that industrial boilers are a small percentage of the total NO<sub>x</sub> reductions compared to utilities. If modeling shows attainment without controlling industrial boilers and the emission levels are small, there is no need to control these units to the level being proposed. (ALCOA)

*Response:* There are only a few non-utility sources covered by the rule and their emission totals are small compared to the totals for utility sources. However, these sources are similar to utility sources on an individual basis. They have similar environmental impacts, for example, the stacks are generally tall, fuels are similar, and daily emissions are high. Their emissions can be controlled using the same types of control technology as utility boilers. Like utility sources, it is difficult to establish impact on an individual basis, but they collectively add to the problem of regional transport of emissions resulting in attainment problems for many areas of Indiana.

*Comment:* NO<sub>x</sub> sources burning blast furnace gas (BFG) should have the ability to opt out of the rule. NO<sub>x</sub> controls for non-utility sources have a negligible effect on ozone concentrations and a suggested attainment demonstration does not include non-utility NO<sub>x</sub> controls. The rule should allow a source to be able to demonstrate that worst-case emissions are less than or equal to fifty percent (50%) of the applicable limit or that the unit cannot exceed the emission rates under any reasonably foreseeable scenario and be exempted from the rule. (III) (BSC)

*Response:* IDEM believes that these sources should be included in the rule that will be needed for the attainment demonstration. Units with emissions that are already low will have little to do to comply with the rule. IDEM does agree that those units that have low emissions should be allowed to have less stringent monitoring requirements and has revised the monitoring requirements to reflect this.

*Comment:* An exemption should be provided to clarify that units with permit limits that restrict the heat input capacity to less than or equal to two hundred fifty (250) mmBtu per hour are not subject to the rule. (PU)

*Response:* IDEM agrees and has revised the rule to clarify the applicability.

*Comment:* The rule should be revised to lower the applicability thresholds to twenty megawatt (20 MW) and two hundred (200) mmBtu/hr. (SL)

*Response:* IDEM disagrees that the applicability should be lowered, because it would not be cost effective for these size units to meet the limits.

*Comment:* There is concern that the proposed rules are in conflict with the federal rules under Section 126 of the CAA. While the emission limit under the Indiana rule is less stringent, the federal rules include a cap and trade program not included in the proposed rule. Indiana's rule does include an emissions averaging provision, but it is biased towards companies with facilities concentrated in Indiana. The rule should include a complete exemption for any units that are subject to the recent Section 126 rules promulgated by U.S. EPA. (RPL) (USEC)

*Response:* IDEM agrees and has revised the rule accordingly, although language has been provided to allow companies with units subject to Section 126 rules to average the emissions from these units with non-Section 126 units.

#### Emission limits (326 IAC 10-2-2)

*Comment:* The thirty (30) day rolling average should be changed to ozone season average and should be a weighted average. The thirty (30) day rolling average hampers participation in a trading program based on an ozone season average, faces practical problems due to the partial year nature of the rule, and increases the cost of compliance in order to provide a margin of safety to assure compliance. (HE) (IPL) (CIN) (IEG) (IKEC) (ALCOA) (BSC) (SLE) (NS) (AEP) (SIGECO) (RPL)

*Comment:* If a thirty (30) day rolling average is retained, the rule should include emergency provisions that would shield a source from noncompliance if it is not possible to comply with the rule and provide needed electricity. If retained, IDEM should also make clear that the thirty (30) day average begins on May 1 and ends on September 30, this is especially important for sources subject to 326 IAC 10-1 and 326 IAC 10-2, and change the definition of "operating day" to be more consistent with 40 CFR 60, Subpart Da. The rule should be specific concerning the thirty (30) day rolling average and how the averaging will be calculated in the initial and final thirty (30) days of the ozone season. The rule should be clarified to indicate that compliance with the emission limit is either on an arithmetic average basis or a Btu-weighted average emission rate. (PU) (IPC) (HE) (IPL) (CIN) (IEG) (IKEC) (ALCOA) (BSC) (SLE) (NS) (AEP) (SIGECO) (USS)

*Response:* In anticipation of the NO<sub>x</sub> SIP call and to maintain consistency with other Region 5

states, IDEM has deleted the thirty (30) day rolling average and replaced it with an ozone season averaging period. The rule has also been revised to clarify that the limits are a Btu-weighted average.

*Comment:* The Reasonably Achievable Control Technology (RACT) limit for stoker-fed coal and pulverized coal, wall-fired boilers should be changed to five-tenths (0.5) lb/mmBtu. (IPL) (ALCOA)

*Response:* The commenters did not provide any information concerning the feasibility of meeting a four-tenths (0.4) versus a five-tenths (0.5) limit. The four-tenths (0.4) lb/mmBtu limit is consistent with limits in Michigan rules and, based on IDEM's review of available information, is reasonably achievable.

*Comment:* IDEM should not consider an alternative sixty-five percent (65%) reduction from 1990 emissions as an emission limit. The proposed limit of twenty-five hundredths (0.25) lb/mmBtu is an appropriate limit. Any limit less than twenty-five hundredths (0.25) lb/mmBtu would require additional cost information demonstrating that the lower limit is more cost effective than other NO<sub>x</sub> controls and the incremental NO<sub>x</sub> controls outweigh local NO<sub>x</sub> and VOC reductions. In addition, IDEM should address electric reliability concerns and the significant impact of the lower limit. (CIN) (IPL)

*Response:* IDEM agrees and is continuing with a twenty-five hundredths (0.25) lb/mmBtu emission limit.

*Comment:* Subsections (c) and (d) under section 2 should be revised to be included under the subsection for industrial boilers. The subsections appear to apply to the entire section, but the emission limit for EGUs is non-fuel specific. (IEG) (SIGECO)

*Response:* The rule has been revised to clarify subsections 2(c) and 2(d).

*Comment:* The emission limit for EGUs should be expressed as the less stringent of twenty-five hundredths (0.25) lb/mmBtu or a sixty-five percent (65%) reduction from 1990 emission rate levels to account for the inherent difficulties with controlling NO<sub>x</sub> emissions from certain boiler types. (IKEC)

*Response:* As stated above, modeling twenty-five hundredths (0.25) lb/mmBtu shows little margin of safety in reaching attainment. A sixty-five percent (65%) reduction would provide substantially less NO<sub>x</sub> reduction statewide and does not achieve attainment of the ozone standard.

*Comment:* Language should be provided under section 3 that would allow a source to comply with an alternate emission limit based on an ozone season cap. The cap could be established using actual utilization from 1994 to 1999 and averaging the two (2) highest years and multiplying by twenty-five hundredths (0.25) lb/mmBtu. (IKEC) (RPL)

*Comment:* The rule should allow sources to comply with an equivalent NO<sub>x</sub> reduction through

an alternate compliance demonstration rather than a strict emission rate. An equivalent mass reduction could be calculated and the owner or operator would choose the best mix of units to control to achieve the equivalent reduction. Historical operating data could be used to establish the alternate mass limit and compliance with the alternate mass limit would be deemed compliance with the underlying emission rate. Language should be included identifying what is required to be provided to IDEM, general procedures for approval of the alternate limit and time frames for approval. (BP) (IPC) (NS)

*Response:* IDEM is not including alternate emission limit provisions at this time. This may be revisited with the rulemaking in response to the NO<sub>x</sub> SIP call.

*Comment:* The level of emissions should be consistent with the NO<sub>x</sub> SIP call and be placed at fifteen hundredths (0.15) lb/mmBtu. RACT should be required for non-utility boilers. IDEM has an obligation to write rules that are sufficiently stringent to achieve a greater degree of environmental protection and should vigorously defend the rules in the event of litigation. The rule should be revised to achieve the total NO<sub>x</sub> reductions envisioned under the NO<sub>x</sub> SIP call and the appropriate limits included. IDEM should reject arguments concerning the use of selective catalytic reduction (SCR) controls and the associated use of ammonia. While ammonia requires special storage and handling, current handling practices, when properly followed, minimize danger to human health and the environment. More importantly, the rule does not mandate the use of SCR and repowering with cleaner fuels such as natural gas would be allowed to meet the emission limits. (SL) (SCHC) (VW) (HEC) (CAC) (ALA) (TC) (ELP) (MG) (GCTF) (GH) (IWL) (NRDC) (SDC) (SV) (SOLE) (SOR) (SCFRG) (TW) (DWN)

*Response:* The rule already includes RACT for industrial boilers. IDEM is maintaining the twenty-five hundredths (0.25) lb/mmBtu limit for utility boilers, at this time, because modeling demonstrates that emission rate to be adequate to achieve the one (1) hour ozone standard, but emission limitations may be revisited during the rulemaking to address the NO<sub>x</sub> SIP call.

*Comment:* The averaging period should be reduced to four (4) days. Ozone is a daily problem and a single daily ozone peak can cause dramatic health effects. Industry has several years to implement measures to address any reliability concerns with a four (4) day rolling average. As an alternative, the averaging period should be seven (7) days in order to both allow flexibility to affected sources and reasonably ensure attainment of the air quality health standard at all times. (HEC) (CAC) (ALA) (TC) (ELP) (MG) (GCTF) (GH) (IWL) (NRDC) (SDC) (SV) (SOLE) (SOR) (SCFRG) (TW) (VW) (SCHC) (SL) (MH)

*Response:* IDEM believes that a four (4) or (7) day averaging period would pose substantial compliance issues for sources subject to the rule, due to normally expected operation. Sources subject to this rule will be also be subject to the NO<sub>x</sub> SIP call rule once that rule is final adopted, and therefore, IDEM is adopting an ozone season averaging period to be consistent with the SIP call.

*Comment:* The following are our concerns with the draft rule:

- Does not require a sufficient degree of NO<sub>x</sub> reductions.
- Does not specify that the averaging period needs to be limiting over short periods given the one (1) hour standard and modeling assuming hourly averaging.
- Does not reflect or guarantee an absolute limit on growth of industrial sector NO<sub>x</sub> emissions beyond the electric generation industry.
- Does not require NO<sub>x</sub> limits for non-electric facilities consistent with current emission rates achieved by existing facilities and those allowed for new sources. The limits that Indiana has proposed in the rule for non-utility units are well above the assumptions for a RACT level program as defined in the NO<sub>x</sub> SIP call defaults. The default control efficiencies range from thirty-five hundredths (0.35) lb/mmBtu for wall-fired coal fired boilers down to thirteen (0.13) lb/mmBtu for gas fired boilers. From a program perspective, it may be more cost effective and equitable to require the up-to-date application of enhanced low NO<sub>x</sub> burners for wall-fired boilers and over-fire air configured for NO<sub>x</sub> optimization for stoker boilers. This provides a significant opportunity for additional NOx reductions in a comparative cost-effective manner.

For electric generation facilities, a shorter averaging period or a lowered emission limit with a longer averaging period would certainly help. A flexible and phased implementation of major NO<sub>x</sub> reductions has been supported for attainment of the one (1) hour standard. Phasing and appropriate trading can provide for a smooth implementation without disrupting electric system reliability. The rule should include more stringent NO<sub>x</sub> reductions or add a phased approach for additional NO<sub>x</sub> or VOC reductions, or both. (WDNR)

*Response:* IDEM believes that the rule requires appropriate NO<sub>x</sub> reductions for the current purpose. Issues of growth and further reductions will be addressed in the NO<sub>x</sub> SIP call rulemaking.

*Comment:* The uniform twenty-five (0.25) lb/mmBtu emission limit for utility boilers is overly stringent and unnecessary to achieve the one (1) hour ozone standard. Modeling supports a less stringent control program. While modeling suggests that additional NO<sub>x</sub> controls on utility sources that go beyond the Acid Rain program requirements may be required, IDEM must consider a less stringent control program, such as the less stringent of a fifty-five percent (55%) reduction from 1990 levels or thirty-five (0.35) lb/mmBtu emission limit. (AEP)

*Response:* IDEM has considered a range of control rates. The most recent modeling conducted by IDEM clearly shows that anything less than the twenty-five hundredths (0.25) lb/mmBtu rate will not show attainment of the one (1) hour standard.

*Comment:* The only way to prevent ozone episodes that are due to emissions spikes is to eliminate averaging and implement a rate control on all units at all times, except possibly during startups and shutdowns. The language under 326 IAC 10-2-2(a) and (b) should be amended to: “at all times”. (SL) (VCDH)

*Response:* IDEM believes that providing for emission averaging allows sources to comply in a

cost-effective manner and including any language concerning “at all times” would eliminate the averaging provisions. Modeling that compares an averaged to a non-averaged scenario shows no discernible difference in ozone levels.

*Comment:* If a rate based rule is implemented, it may be possible for plants to increase their production, thus offsetting reductions made due to emissions controls. A rule based on a cap and trade program would result in the total NO<sub>x</sub> emissions in Indiana being controlled. (VCDH)

*Response:* Rate-based rules have been found to be effective, when they are based on actual historical production rates, as this rule is. IDEM will address a cap and trade program in the NO<sub>x</sub> SIP call rulemaking.

*Comment:* The language under section 2(d) should be revised to correct a typographical error concerning the number of days a request must be made prior to compliance date. The written version is two hundred seventy (270), but the numeric version is two hundred eighty (280). In addition, under 2(d)(4)(B), the word “in” should be “is”. (VCDH)

*Response:* IDEM has made the corrections.

*Comment:* There should not be different emission limits for identical units and no emission limit should be more stringent than the twenty-five hundredths (0.25) lb/mmBtu limit applicable to utilities. Utility sources have the twenty-five hundredths (0.25) lb/mmBtu limit, but an industrial boiler fired with oil or gas has a limit of twenty hundredths (0.20) lb/mmBtu. Two (2) identical emission sources fired with the same fuel would be operating under different emission limitations. (USS)

*Response:* IDEM has established different emission rates for different types of facilities based on available information about what is reasonably achievable and cost effective. The utility limit is not fuel specific and is actually more stringent for utility units that burn coal or oil. A coal-fired industrial boiler only has to meet a RACT limit of four-tenths (0.4) lb/mmBtu, whereas a coal-fired utility boiler has to meet the twenty-five hundredths (0.25) lb/mmBtu limit.

#### Compliance procedures (326 IAC 10-2-3)

*Comment:* The averaging plan requirements should be changed to allow different owners/operators to average emissions under a signed agreement between the parties or owners/operators with plants outside Indiana to average all of the units under their control. The averaging plan should also be available on a regional basis including Illinois, Kentucky, Michigan, Missouri, Ohio, Tennessee, and Wisconsin. (HE) (CIN) (IKEC) (III) (AEP) (RPL)

*Response:* There are many administrative and legal issues associated with regional averaging and IDEM is deferring this until the NO<sub>x</sub> SIP call rulemaking. Additionally, until such time as a broad regional program is in place, such as that contemplated by the SIP call, it is IDEM’s goal with this rule to assure that reductions needed to improve air quality are achieved in Indiana.

IDEM has changed the rule language to provide companies the ability to enter into agreements to average emissions between the facilities and units in Indiana.

*Comment:* The averaging plan language should be clarified to allow owners/operators of electric generating units (EGUs) and non EGUs to include all units under a single averaging plan no matter the classification of the unit. (IPL)

*Response:* The language under the averaging plan provisions do not specify that only units of the same classification can be included under an averaging plan. IDEM will attempt to provide clarification that any unit, regardless of classification, can be included under a single plan.

*Comment:* IDEM should clarify that re-opening a Title V permit to include the averaging plan and associated heat-input limits will not trigger the 40 CFR 64 compliance assurance monitoring (CAM) applicability. (IPL)

*Response:* IDEM does not believe that the re-opening of a Title V permit to include the NO<sub>x</sub> rule requirements will trigger the CAM requirements. The only situation where this would occur is when IDEM or U.S. EPA re-opens a Title V permit for cause. In many cases, sources and units subject to this rule will not have a final Title V permit and the NO<sub>x</sub> requirements will be included with other requirements when the draft permits are issued.

*Comment:* The rule should be amended to allow owners or operators to achieve the necessary reductions by opting to control other sources not subject to the rule or make a demonstration for other sector reductions available to the source, including mobile sources. The source would have to demonstrate that the reduction is equivalent to the reduction required by the rule and meets the criteria under 326 IAC 2-3-4 or sources could use the formula under 326 IAC 10-2-2(c) to determine the source's cumulative limit. (BP) (IPC) (III) (USS)

*Response:* IDEM is not including these types of provisions at this time but will consider this issue in the NO<sub>x</sub> SIP call rulemaking.

*Comment:* The emissions averaging provisions should be removed or the averaging should be limited to a single plant with several affected units. (SCHC) (VW) (HEC) (CAC) (ALA) (TC) (ELP) (MG) (GCTF) (GH) (IWL) (NRDC) (SDC) (SV) (SOLE) (SOR) (SCFRG) (TW) (DWN)

*Response:* IDEM believes that the emission averaging provisions are an important means of achieving cost-effective emission reductions, and will not reduce the positive environmental impact of the rule.

*Comment:* Clarification should be provided under the fuel switching provisions under 326 IAC 10-2-3(a)(2)(A) concerning whether or not it is permissible to alternate between fuels as desired or if the boiler is required to use the alternate fuel during the entire control period. The language also seems to contradict the limits required in subsection (c) because the language does not specify whether the "combination of oil and gas" is simultaneous. (NS)



*Response:* IDEM has revised the language to clarify that if a unit will not be using the alternate fuel during the entire control period, then the source must provide an estimation of the time periods when the alternate fuel will be used.

*Comment:* It appears the language under 326 IAC 10-2-3(a)(3)(B) would prevent an affected unit from being included in various averaging plans. A company should not be prevented from having various averaging plans from which it could choose to comply. (NS)

*Response:* The language under 326 IAC 10-2-3(a)(3)(B) comes from similar provisions under the acid rain program. The rule would not prevent a company from having various plans, but the company would have to operate under the “approved” plan until such time as a change is requested and approved.

*Comment:* The time periods under 326 IAC 10-2-3(b) are very long lead times and do not allow flexibility to make changes. IDEM should include some flexibility for adjustments to the plans as companies gain experience in dealing with complex equipment, operating procedures, and characteristics needed to comply with the requirements of the rule. (NS)

*Response:* The time periods are consistent with permit accountability time periods and there is nothing to prevent a company from requesting adjustments or changes after an initial submittal has been made.

*Comment:* The averaging plan should provide an allowance system to give credit to a source for not operating some of its units. The current provisions penalize sources that do not operate a unit and should be revised to give credit for reductions that result from a shutdown or derated unit. (RPL)

*Response:* The allowance system and emission credits will be addressed in the NO<sub>x</sub> SIP call rulemaking.

#### Monitoring and testing (326 IAC 10-2-4)

*Comment:* IDEM should develop a missing data/data substitution routine for periods of continuous emissions monitoring system (CEMs) unavailability and it should be based on provisions found under 40 CFR 75. (IPL)

*Response:* IDEM has revised the language to state that the CEMs must be operated in accordance with 40 CFR 75 and the missing data or data substitution provisions under that regulation will apply.

*Comment:* The rule should provide alternative compliance monitoring options rather than just CEMs. IDEM should allow sources to use alternative monitoring protocols under 40 CFR 75, Appendix D and E in lieu of CEMs. Demonstrated compliance monitoring parameter levels, predictive emissions monitors, and stack testing should be considered with other alternative

methodologies under 40 CFR 60 as alternatives to CEMs. (BP) (IPC) (III) (BSC) (SLE) (NS) (SIGECO) (IPL) (IEG) (USS)

*Comment:* The language under 326 IAC 10-2-4 should be revised to separate electric generating unit (EGU) and non EGU requirements into separate subdivisions and not have monitoring based on whether or not the unit is subject to the acid rain program. (IPL) (IEG) (NS) (SIGECO)

*Comment:* IDEM should provide language that recognizes industrial boilers that have opted-in to the acid rain program and allow the use of 40 CFR 75 monitoring provisions. (IPL)

*Response:* IDEM has revised the language under section 4 to separate the section based on whether the unit is an EGU, coal-fired non EGU, and non EGU combusting fuels other than coal. Alternative monitoring provisions have been included and the language revised to recognize units that have opted-in to the acid rain program.

*Comment:* IDEM should clarify if current methods for determining NO<sub>x</sub> emissions under 40 CFR 60, Appendix A, Method 19 will continue to be acceptable under the rule. (PU)

*Response:* The methods currently used by a source operating a CEMs under 40 CFR 60 will continue to be in effect.

*Comment:* The CEMs requirement should be retained and must be required in any rule that allows for any averaging period in order to determine compliance. (SL) (HEC) (CAC) (ALA) (TC) (ELP) (MG) (GCTF) (GH) (IWL) (NRDC) (SDC) (SV) (SOLE) (SOR) (SCFRG) (TW) (VW) (SCHC)

*Response:* The CEMs requirement is being retained, however alternatives are being provided where a CEMs would be cost prohibitive. Many of the sources that will be using the averaging provisions already have CEMs in place. CEMs requirements will also be addressed in the NO<sub>x</sub> SIP call rulemaking.

*Comment:* Units that demonstrate through approved compliance testing that they have NO<sub>x</sub> emissions of seventy percent (70%) or less than the stated limit should be exempt from the CEMs requirement. (USS)

*Response:* IDEM agrees and has included provisions for units with low emissions.

#### Record keeping and reporting (326 IAC 10-2-5)

*Comment:* IDEM should not require prior approval for maintaining records at a centralized location, rather this should be allowed after simple notification. (HE) (IEG) (SLE) (NS) (AEP) (SIGECO)

*Comment:* The possibility of maintaining records at a centralized location is appreciated, but this should be acknowledged under 326 IAC 10-2-5(a)(1) and clarifying language should be included concerning the request. Language should address to whom the request should be made,

approval evaluation, notification, and timing as well as the availability of the records to IDEM and U.S. EPA. (NS)

*Response:* IDEM has revised the language to delete the requirement to gain approval for centralized storage of records.

*Comment:* The reporting requirements should be changed to only require that excess emissions be reported thirty (30) days following the end of a calendar quarter. The reporting required under 326 IAC 10-2-5(b)(2) is excessive and unnecessary. In addition, current rules already require notification in the event of control unit malfunctions. (HE) (IPL) (IEG) (NS) (AEP) (SIGECO)

*Comment:* The reporting requirements should be changed to only require a final report at the end of the season that demonstrates compliance or identifies excess emissions, or both, and the requirement to produce excess emissions reports within thirty (30) days should be deleted. (BSC)

*Response:* Because the rule has been changed to include an ozone season averaging period, the excess emissions report has been deleted and replaced with an end of season report.

*Comment:* Additional record keeping beyond 40 CFR 60 or 40 CFR 75 should not be included in the rule. The requirement for identification of corrective actions or maintenance and repairs should be deleted because it exceeds the information required to administer the rule. The requirement to report all maintenance and repair actions should be limited to only pollution control equipment. (SL) (HE) (IEG) (SLE) (NS) (SIGECO)

*Response:* IDEM has revised the language to be more consistent with the federal record keeping requirements.

*Comment:* The language under 326 IAC 10-2-5(a)(1)(G) should be clarified concerning the phrase “during which NO<sub>x</sub> standards are exceeded” and whether this is an averaging plan exceedance or other exceedance. (NS)

*Response:* IDEM has deleted the phrase and has simplified the record keeping requirements.

*Comment:* Clarification should be provided as to whether or not the deadlines are limited to actual delivery or the more typical postmark or shipping receipt date. (NS)

*Response:* Where needed, the rule language has been revised to include postmark and shipping receipt dates.

*Comment:* All industries affected by the rule should be required to maintain records on maintenance of pollution control and monitoring equipment and the records should be easily accessible by IDEM inspectors. (HEC) (CAC) (ALA) (TC) (ELP) (MG) (GCTF) (GH) (IWL) (NRDC) (SDC) (SV) (SOLE) (SOR) (SCFRG) (TW) (VW) (SCHC)

*Response:* IDEM has revised the rule language to be consistent with federal requirements and the rule will require records of corrective action when emission rates are exceeded or monitoring

data is not available.

#### Incorporation of federal regulations (326 IAC 21-1-1)

*Comment:* IDEM should not pursue the incorporation by reference of regulations associated with the NO<sub>x</sub> SIP call (63 FR 57498 through 63 FR 57514, October 27, 1998) until the litigation is complete. The changes published at 63 FR 68400, December 11, 1998 are unrelated to a NO<sub>x</sub> reduction program and do not belong in this rulemaking. These changes should be incorporated in a separate rulemaking. (IPL)

*Response:* IDEM has removed the incorporation by reference section from this rulemaking and published a separate notice under IC 13-14-9-8 on July 1, 2000 in the Indiana Register (23 IR 2611).

#### Early reduction credit

*Comment:* IDEM should give credit for sources that make early reductions and the credit should be in the form of compliance extensions. (HE) (ALCOA)

*Comment:* IDEM should provide for early reduction credits for sources that install and operate controls prior to 2003. Language could be included that would provide early reduction credits to sources that control below twenty-five hundredths (0.25) lb/mmBtu that could then be used in 2003 through 2005. (CIN) (NS)

*Comment:* If the emission limit is changed from an emission rate to a tonnage limit and sources are allowed to choose the mix of controls, this could provide an incentive to generate early reductions, especially if sources are allowed to trade the reductions or are given compliance extensions. (IPC)

*Response:* IDEM has included rule language that would recognize early reductions by allowing for a one (1) year compliance extension. Provisions for credits or an emissions cap will be deferred to the NO<sub>x</sub> SIP call rulemaking.

#### Permitting issues

*Comment:* IDEM should provide language that does not penalize sources if IDEM does not complete permitting requirements in a timely fashion. Sources should be able to operate the facility with the required control equipment or in a fashion that protects the control equipment. (HE)

*Response:* While IDEM understands that sources may be concerned regarding permitting time lines, IDEM has specific schedules governing timely permit issuance codified in 326 IAC 2-1.1-8. Sources have remedies available to them, codified in 326 IAC 2-1.1-8(m), (n), and (p), if IDEM does not issue a permit within the time periods specified. In addition, IDEM cannot circumvent federal requirements that require certain modifications to obtain approval prior to

construction. The time period for modifications that are not significant is not substantial and should not affect a source's ability to comply with the state NO<sub>x</sub> rule, as long as the source files an application for a source or permit modification, or both, within a reasonable time period from when the rule is promulgated. IDEM will make every effort to work with sources requiring modifications or revisions to their permits to ensure that the permitting requirements are met and that the modifications are permitted within a reasonable time.

*Comment:* IDEM should include language that allows sources to install control equipment without a lengthy permit process. Notification and certification requirements could be retained, but due to the long lead times associated with SCR installation, the addition of nine (9) to twelve (12) months to develop an application and obtain a permit will make compliance difficult to achieve. (CIN) (NS) (AEP)

*Response:* Title 326 of the Indiana Administrative Code currently contains language regarding permitting control devices. For a source with a Federally Enforceable State Operating Permit (FESOP), 326 IAC 2-8-10(a)(11) defines when installation of pollution control equipment qualifies as an administrative permit amendment, 326 IAC 2-8-11.1(d)(3) defines when installation of pollution control equipment qualifies as a minor permit revision, and 326 IAC 2-8-11.1(f)(1)(i) defines when installation of pollution control equipment qualifies as a significant permit revision.

For a source with a Title V Operating Permit, the potential to emit (PTE) exemption levels listed in 326 IAC 2-1.1-3(d)(1) define when installation of pollution control equipment may qualify as an exempt modification, 326 IAC 2-7-10.5(d)(3) defines when installation of pollution control equipment qualifies as a minor source modification, and 326 IAC 2-2-1(o)(2)(H) and 2-7-10.5(f)(8) define when installation of pollution control equipment qualifies as a significant source modification.

In many cases, installation of pollution control equipment is an exempt modification, administrative amendment, or a minor source modification. The time period for these modifications that are not significant is not substantial and should not affect a source's ability to comply with the state NO<sub>x</sub> rule, as long as the source files an application for a source or permit modification, or both, within a reasonable time period from when the rule is promulgated. However, it is possible for certain changes to be significant due to federal requirements. IDEM cannot circumvent federal requirements that require certain modifications to obtain approval prior to construction. IDEM will work with sources on a case-by-case basis to address any of the concerns regarding permitting levels and time periods as applications for modifications are received.

### Trading

*Comment:* IDEM should pursue a rate-based emissions trading program and consider implementation hurdles that exist with integrating the current proposed rule with the thirty (30)

day averaging period with an emissions trading rule. (IPL)

*Comment:* Sources should be allowed to use a heat input weighted system-wide emission rate average. It is possible that a trading program could be developed in conjunction with the system-wide average that would allow sources to purchase additional emission allowances. An emission rate trading program would be simpler to implement than a cap and trade. The allocation process is not needed and tracking is limited to banked and traded emissions. (CIN)

*Comment:* A place holder should be included in the rule to allow for future development of a trading program. (IEG) (NS) (SIGECO)

*Comment:* A trading program should be developed immediately to increase the available sources for which NO<sub>x</sub> emissions can occur and from which credits can be obtained. A trading program coming on line in several months or more will not be useful. The implementation of a trading rule after implementation of a rate limit rule could give those facilities that had not yet begun construction of emissions control units an unfair advantage, by affording them the option of trading rather than controlling emissions. (IPC) (VCDH) (RPL) (IKEC)

*Comment:* The rule should not include an emissions trading program unless the program covers only one (1) pollutant, NO<sub>x</sub>, and includes an emissions cap that is ratcheted down over time. (HEC) (CAC) (ALA) (TC) (ELP) (MG) (GCTF) (GH) (IWL) (NRDC) (SDC) (SV) (SOLE) (SOR) (SCFRG) (TW) (VW) (SCHC)

*Response:* IDEM is deferring a trading program until the NO<sub>x</sub> SIP call rulemaking.

### Compliance deadline

*Comment:* The compliance date should be established relative to the rule effective date. The rule should require compliance three (3) years from the effective date of the rule and language should be included for new sources that would require compliance the first control period after startup. (IPL) (BP) (AEP)

*Comment:* A provision should be included in the rule that would allow a one (1) year extension if sources are unable to meet the deadline because of shortages in labor, equipment, or because concerns with respect to regional electric system reliability result in the need for a protracted installation schedule. The rule should include provisions for granting extensions to account for procurement and construction. The rule should provide as much flexibility as possible if the compliance date is not changed from May 1, 2003. Without such flexibility, affected sources will be hard pressed to procure necessary engineering and equipment by that time and turn-around schedules will be severely at risk. (IPC) (BP) (IPL)

*Comment:* The compliance date should be extended to at least May 1, 2005. (IKEC) (USEC)

*Comment:* The compliance date should be extended by one (1) year for sources making early reductions or the compliance date can be moved to May 1, 2004. (ALCOA)

*Comment:* Utility coal-fired units that are replaced or repowered with natural gas to meet a fifteen hundredths (0.15) lb/mmBtu emission limit should be allowed a one (1) year compliance extension. (HEC) (CAC) (ALA) (TC) (ELP) (MG) (GCTF) (GH) (IWL) (NRDC) (SDC) (SV)

(SOLE) (SOR) (SCFRG) (TW) (VW) (SCHC)

*Response:* The compliance date of May 1, 2003 is consistent with the NO<sub>x</sub> SIP call and the attainment date for Clark and Floyd counties. In addition, U.S. EPA has indicated that it will conduct a midcourse review for the Chicago area, including Lake and Porter counties, following the 2003 ozone season, to determine whether Indiana is on track to reach attainment of the ozone standard by 2007 or whether additional ozone precursor reductions will be required. Therefore, 2003 is the appropriate compliance date for NO<sub>x</sub> reductions. IDEM has included language that would allow for a compliance extension of one (1) year, if the source achieves early reductions.

#### Alternative emission limits/compliance plan

*Comment:* Language should be included that would allow sources to request an alternative emission limit or an alternative compliance plan. SCR control technology has not been tested using domestic coal types and unforeseen problems could occur. Language similar to 326 IAC 10-1-4(c)(1) could be used. Technical feasibility, economic feasibility, availability of contractors and performance of the control technology may impact compliance. (CIN) (IEG) (IKEC) (SIGECO)

*Response:* Further alternatives, such as trading, will may be included with the NO<sub>x</sub> SIP call rulemaking. Within the past few years, the use of SCRs and other technologies on units comparable to Indiana units has been increasing. IDEM has included significant flexibility in the rule that is intended to provide a range of compliance options.

#### Energy efficiency

*Comment:* Considerable effort should be made to improve energy efficiency and new peaking plants with an efficiency of thirty-three percent (33%) should not be constructed. NO<sub>x</sub> and other pollution factors should be applied to electrical energy output. IDEM should include provisions that will support development of new highly efficient ultra-low emitting facilities. The combined cycle technologies can achieve forty-five percent to fifty percent (45-50%) efficiency compared to coal-fired units achieving only thirty percent to thirty-five percent (30-35%) efficiency. Efficiencies can be enhanced to achieve efficiencies approaching sixty percent to eighty percent (60-80%). A phased implementation would allow owners and operators to take advantage of the new technologies. (NS) (SL)

*Comment:* IDEM should consider an output-based emission limit. An output-based emission limit would provide companies with additional flexibility and still be compatible with the current rule. Providing output-based compliance options would create incentives for efficient energy production and encourage companies to rely on their most efficient generating units during peak ozone season as well as encouraging companies to make capital investments to replace or repower inefficient operating units. An output-based program would also allow for the inclusion of renewable energy sources, such as solar power and wind, and encourage the use of these

alternative energy sources. (NS)

*Comment:* The rule should encourage early reductions through investment in energy efficiency and the incentives could be early reduction credits and compliance date extensions. A determination could be made concerning energy efficiency savings that are equivalent to incremental reduction in NO<sub>x</sub> emissions resulting from complying with the emission limit and the average cost of the energy efficiency savings. The savings and costs could be used to establish fees that would be paid into an energy efficiency fund for early reduction credit purchases. The funds would then be expended on energy efficiency programs. The sources purchasing the credits would be given a one year compliance extension. (HEC) (CAC) (ALA) (TC) (ELP) (MG) (GCTF) (GH) (IWL) (NRDC) (SDC) (SV) (SOLE) (SOR) (SCFRG) (TW) (VW) (SCHC)

*Response:* IDEM has included provisions that would allow a company to demonstrate compliance with an output based limit and will revisit energy efficiency issues with the NO<sub>x</sub> SIP call rulemaking.

#### Source specific comments

*Comment:* No. 4 AC Station at Ispat is not currently operating and the NO<sub>x</sub> emissions credits have been, or will be, used in the permitting process. The unit is not available for NO<sub>x</sub> reductions. (III)

*Response:* IDEM acknowledges the status of this unit.

*Comment:* IDEM should eliminate barriers, even including cross-media barriers, that prevent lower emitting units from operating during periods of peak demand. This includes permit conditions that limit wastewater temperature that result in a low emitting unit having to reduce operation while the electricity is replaced by a much higher emitting utility boiler. (BSC)

*Response:* This issue is outside the scope of the rulemaking.

*Comment:* Growth estimates used in any modeling inventory should be evaluated. Sources in nonattainment areas have built-in restrictions through the permit process and may not be able to grow as predicted by a projected growth rate. (BSC)

*Response:* IDEM has used published information from U.S. EPA concerning growth.